GLASGOW CORPORATION.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

OF THE

CITY OF GLASGOW.

1906.

Ordered to be Printed by the Committee on Health.

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REPORT OF THE MEDICAL OFFICER OF HEALTH.

1906.

SECTION I.

The Local Government Board, in their circular, of date December 13th, 1905, regarding the Annual Reports of Medical Officers, require—(*a*) "A general account of the influences and conditions injurious or dangerous to the health of the burgh, and of the measures that, in his opinion, should be adopted for its improvement."

As in former years, it will be convenient to preface this with a summary of the vital statistics for the year.

		Registrar General's Estimate.		Medical Officer's Estimate.
Population, ...		835,625	...	803,187
Acreage, ...		...	12,796*	...
Persons per acre, ...		65·3	...	62·8
Number of Inhabited Houses, ...		...	166,306	...
Deaths—Number registered, ...		...	14,889	...
,, After correction for Institutions, &c., ...		...	14,117	...
Births—Number registered, ...		...	24,560	...
,, After correction, ...		...	24,395	...
Death-rate per 1,000 living—All causes, ...		17·8	...	17·6
Birth-rate per 1,000 living, ...		29·4	...	30·4
Deaths under One Year, ...		...	3,185	...
Deaths ,, ,, ,, per 1,000 births, ...		131	...	131
Death-rate per 1,000 living from—				
Zymotic diseases, ...		...	2·6	17·6
Tuberculous diseases—				
(*a*) Phthisis, ...	1·5	...	2·6	
(*b*) Others, ...	1·1			
Diseases of respiratory system, ...	1·7	...	3·4	
Pneumonia, ...	1·7			
Diseases of circulatory system, ...		...	1·7	
Diseases of nervous system, ...		...	1·6	
Malignant diseases (cancer, &c.), ...		...	·7	
Septic diseases, ...		...	·2	
Violence, ...		...	·6	
Premature births, ...		...	·6	
All other causes, ...		...	3·6	

---

* Includes 108 acres in Kinning Park added to the City in 1905.

It will be observed that the Registrar-General's estimate of the population exceeds that which is based on the number of inhabited houses by over 32,000, and would, if used for calculating the rate from the deaths *as corrected*, yield a figure almost 1 per 1,000 lower than that here given by him, viz., 16·9 instead of 17·8.

I have so frequently referred to this discrepancy that further discussion here is scarcely necessary. But it may be well to repeat that the growth of the City in the present decade differs so greatly from that in the last that all estimates of death-rates—until next census sets the question of population at rest—must be accepted with a certain reserve. The local estimate is, I believe, more reliable than that which assumes that the rate of growth in the present decade equals that in the last, and the divergence supplies further illustration of the benefit which a limited intercensal enumeration would provide.

As the figures stand, however, the Registrar-General's rate, calculated as has been described, and the Medical Officer's, which is calculated on the inhabited house population and on the corrected deaths, so closely correspond that it may with substantial accuracy be placed between 17 and 18 per 1,000. (See also page 17.)

TEMPERATURE AND RAINFALL.

In the past year, according to Professor Becker, the days on which rain fell numbered 217, and the amount collected was equal to 39·98 inches. There were 240 days on which the sun shone, and snow fell on 22 days.

The mean temperature exceeded the average of 38 years in January and June, and in August, September, October, and November; and that for 1905 in the same months, with April in addition.

A Table compiled from the information supplied by Professor Becker follows:—

TABLE A.

ABSTRACT of Meteorological Observations taken at Glasgow Observatory during 1906.

Months.	Temperature.				Rainfall.		
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature for Month.	Departure from Average of 38 Years.	No. of Days it fell.	Amount Collected, in inches.	Departure from average of 38 Years.
January, ...	50°·2	31°·2	41°·2	+2°·7	25	4·36	+0·66
February, ...	50°·0	26°·3	36°·6	-2°·4	15	2·56	-0·45
March, ...	52°·5	19°·6	39°·8	-0°·5	13	3·21	+0·68
April, ...	62°·1	29°·6	43°·9	-0°·7	12	1·33	-0·69
May, ...	65°·1	33°·5	48°·0	-1°·4	23	4·36	+1·92
June, ...	77°·8	43°·6	57°·0	+1°·9	11	1·44	-1·24
July, ...	73°·2	43°·5	56°·5	-1°·0	19	2·38	-0·74
August, ..	76°·1	46°·5	57°·9	+1°·3	20	4·99	+1·11
September, ...	83°·5	36°·3	54°·4	+1°·4	11	1·87	-1·72
October, ...	63°·1	33°·0	49°·4	+2°·6	26	5·14	+1·46
November, ...	56°·8	33°·3	45°·6	+3°·5	22	4·45	+0·78
December, ...	52°·2	21°·8	38°·6	-0°·3	20	3·89	-0·10
Total, ...	...	...	...	...	217	39·98	...

POPULATION.

The Registrar-General estimated the population of Glasgow at the middle of 1906 at 835,625, an increase in his estimate for 1905 of 25,639. But the population of the Burgh of Kinning Park, which was added to the City on 7th November, 1905, was only included for the first time in his estimate for 1906, so that the portion of the increase properly belonging to the former area of the City may be stated at 12,089. (See footnote for Kinning Park population.)

This estimate is, as has been explained, based on the rate of increase during the intercensal period 1891-1901, and exceeds by 32,438 the Medical Officer's estimate, which is based on the inhabited houses for the year under review.

The number of tenanted houses within the City, and including Kinning Park, at 1st June, 1906, was 166,306. But 2,798 of these were within Kinning Park, and deducting these we have 163,508 as against 162,888 for 1905, or an increase of 620 within the corresponding area.

Within the same area in 1905 the tenanted houses were fewer by 114 than in 1904, and the increase in the year under review arises wholly from growth in the suburbs. Indeed, within the Parliamentary boundary of Glasgow, which generally corresponds with the area of the City prior to the 1891 extension, a steady decrease in the number of inhabited houses is recorded, so that in the three years 1903-6 it amounted to 2,825. Of this total 601 were vacated in the year 1905-6, against which an increase of 1,221 occurred in the suburbs.

Without a system of civil registration we can have no record showing where the occupants of these 2,825 houses have gone, or indeed of the actual number of persons which the houses represent. But, on the basis of the average house occupancy, they would represent a displacement outwards of over 13,000 persons in three years.

It cannot be suggested that they all found accommodation in the 3,890 houses added to the suburbs in the same period. Moreover, the combined births of these years number 98,765, and the deaths 59,836, leaving a surplus of 38,829 lives representing the natural increase in that period, and these would also require to be accounted for. But the estimated increase only amounts to little over 7,000 (Medical Officer's estimate of population—1903, 782,110; 1906, 789,636), leaving aside the figures for Kinning Park.

What the final result of this outward movement of population—a thing in itself to be encouraged—will be is not difficult to foretell. Community of interest welds a population into an organic whole, but if an administrative chasm widens the interval between the toiler of the lanes and wynds from his more favoured brother in the suburbs, sympathy with his difficulties can only exist on a slender tenure when a knowledge of the conditions of his life is lost.

ESTIMATE FOR 1906.

The foregoing observations may be supplemented by including the details which were submitted to the Committee on Health on 14th November last:—

> "I have received from the City Assessor a report of the inhabited houses within the municipality as at 1st June last. It shows a further reduction in the number within the Parliamentary area of Glasgow, and an increase in that part of the municipal area which is beyond the Parliamentary boundary.

Kinning Park population estimated in 1905 at 13,946 (Registrar—General); in 1906, on the number of inhabited houses at 13,550.

"The general tendency of the outward movement of population which this indicates may be illustrated by contrasting the changes which have occurred *within* and *beyond* the Parliamentary area in recent years, leaving aside for the moment the houses belonging to Kinning Park.

"GLASGOW.—INHABITED HOUSES WITHIN AND BEYOND PARLIAMENTARY BOUNDARY IN SEVERAL YEARS (EXCLUDING KINNING PARK).

YEAR.	WITHIN.			BEYOND		
	No.	Difference.		No.	Difference.	
		+	−		+	−
1897, ...	125,175	...	...	23.482	...	...
1898, ...	127,276	1,801	...	24.897	1,415	...
1899, ...	129,071	1,795	...	26,425	1,528	...
1900, ...	129,647	576	...	27,732	1,307	...
1901, ...	130,962	1,315	...	29,026	1,294	...
1902, ...	131,339	377	...	29,908	882	...
1903, ...	131,433	94	...	31,010	1,102	...
1904, ...	130,626	...	807	32,376	1,366	...
1905, ...	129,209	...	1,417	33,679	1,303	...
1906, ...	128,608	...	601	34,900	1,221	...

"This table shows that the continued reduction in the number of inhabited houses within the Parliamentary area during the last three years now amounts to 2,825, whi the increase beyond this is fairly maintained.

"The following statement of the inhabited houses within and beyond the Parliamentary boundary includes Kinning Park :—

"GLASGOW.—INHABITED HOUSES, 1905 AND 1906.

Year.	Municipal Area within Parliamentary Boundary.	Municipal Area beyond Parliamentary Boundary (including Kinning Park).		
		Less Kinning Park.	Kinning Park.	Including Kinning Park.
1905, ...	129,209	33,679	2,878	36,557
1906, ...	128,608	34,900	2,798	37,698

"The total number of inhabited houses within the present municipal area is thus 166,306, and in order to estimate the population therefrom it is convenient, for the reason afterwards referred to, first to deduct those belonging to Kinning Park. There is then left 163,508 inhabited houses, and again deducting 1½ per cent. (2,453 houses), representing those not occupied, and multiplying by 4·769, which represents the average number of inhabitants per house at the Census of 1901, we have a 'house' population, exclusive of that in Kinning Park. of 768,071. To this there falls to be added the 'institutional' population, which this year numbers 20,324, or 1,253 in excess of last year (only partly accounted for by the opening of the Quarry Brae Home, Parkhead), and 1,241 persons representing the shipping population, as ascertained at the last Census. These together make a population of 789,636 (exclusive of Kinning Park), and indicate an increase in the number of 'inhabited' houses of 620 and of population of 4,162, 2,909 of whom represent the additional 'house' population, and 1,253 an addition to the institutional population. This is equal to an increase of 0·5 per cent. for the year within the area of the city prior to the inclusion of Kinning Park.

"The population of Kinning Park has been estimated separately. It has 2,798 houses inhabited this year against 2,878 last year, a decrease of 80. The house-factor obtained from the Census figures (which is not strictly applicable, however, and is likely to overstate the actual number, but is the only one available) was 4·843 persons per house, and indicates a population of 13,551, against 13,938 for last year. Adding this to 789,636 within the rest of the area, as above stated, the mean population of the whole city for 1906 may thus be estimated at **803,187.**

"The Registrar-General's estimate at the middle of the present year is 835,625, or 32,439 more than that obtained on the basis of the inhabited houses. In the accompanying table the number of inhabited houses and of the estimated population in each municipal ward for the years 1905-1906 are stated, together with the decrease or increase occurring in each; and, through the courtesy of the Master of Works, I am able to add a comparative table of the linings granted for house property for the years ending September 30th, 1905 and 1906:—

TABLE B.

GLASGOW, 1906.—INHABITED Houses as per Assessor's Return, and Estimate of Population for each Municipal Ward.

Municipal Wards.	Inhabited Houses.				Population.			
	1905.	1906.	Decrease.	Increase.	1905.	1906.	Decrease.	Increase.
1. Dalmarnock, -	10,901	11,207	...	126	49,408	49,987	...	579
2. Calton, - -	8,077	7,896	181	...	36,881	36,060	821	...
3. Mile-end, - -	9,497	9,799	...	302	43,292	44,669	...	1,377
4. Whitevale,- -	6,961	6,942	19	...	32,877	32,789	88	...
5. Dennistoun, -	7,747	7,929	...	182	35.321	36,153	...	832
6. Springburn, -	8,828	9,075	...	247	42,094	43,274	...	1,180
7. Cowlairs, - -	6,328	6,375	...	47	30,939	31,170	...	231
8. Townhead, - -	8,227	8,100	127	...	38,856	38,260	596	...
9. Blackfriars, -	4,542	4,479	63	...	22,122	21,817	305	...
10. Exchange, - -	391	384	7	...	2,117	2,079	38	...
11. Blythswood, -	609	600	9	...	3,329	3,279	50	...
12. Broomielaw, -	1,477	1,444	33	...	7,726	7,556	170	...
13. Anderston, -	6,278	6,108	170	...	29,588	28,788	800	...
14. Sandyford, -	5,376	5,241	135	...	25,668	25,026	642	...
15. Park, - -	5,102	5,071	31	...	25,017	24,870	147	...
16. Cowcaddens, -	7,965	7,776	189	...	37,344	36,458	886	...
17. Woodside, - -	9,671	9,506	165	...	44,207	43,454	753	...
18. Hutchesontown, -	9,043	8,918	125	...	40,488	39,932	556	...
19. Gorbals, - -	7,423	7,382	41	...	36,074	35,876	198	...
20. Kingston, - -	7,269	7,233	36	...	34,566	34,401	165	...
21. Govanhill, - -	7,414	7,463	...	49	33,760	33,985	...	225
22. Langside, - -	7,891	8,498	...	607	36,026	38,801	...	2,775
23. Pollokshields, -	3,469	3,454	15	...	17,843	17,765	78	...
24. Kelvinside, -	4,008	4,229	...	221	20,647	21,788	...	1,141
25. Maryhill, - -	8,394	8,579	...	185	38,972	39,834	...	862
Institutions, -	...	...	...	...	19,071	20,324	...	1,253
Shipping, - -	...	...	...	...	1,241	1,241	...	...
	162,888	163,508	...	620	785,474	789,636	...	4,162
26. Kinning Park, -	...	2,798	...	...	...	13,551	...	...
CITY, - -	...	166,306	...	...	...	803,187	...	...

"COMPARATIVE TABLE of Linings granted by Dean of Guild Court for Years ending 30th September, 1905 and 1906.

Districts.	No. of Apartments.												Totals.	
	1.		2.		3.		4.		5.		6.			
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.
Central, ...	32	9	51	6	—	—	—	—	5	—	—	—	88	15
Western, ...	—	—	—	180	—	36	—	26	—	—	—	—	—	242
Eastern, ...	200	221	739	675	4	90	—	15	—	3	1	1	944	1,005
Southern, ...	—	48	—	98	—	12	—	—	—	—	—	—	—	158
Northern, ..	—	—	—	—	—	22	—	3	—	—	—	12	—	37
St. Rollox, ...	16	156	112	421	26	40	—	—	—	—	2	4	156	621
Queen's Park.	12	—	231	73	271	118	45	67	43	6	49	54	651	318
Maryhill, ...	—	71	2	230	68	50	27	12	59	48	90	56	246	467
	260	505	1,135	1,683	369	368	72	123	107	57	142	127	2,085	2,863

In connection with the number of one-apartment houses for which linings were obtained during the year, and which were almost double the number similarly granted in 1905, it will be observed from the above Table, kindly supplied by the Master of Works, that considerably over 3,000 houses of this size were returned as unoccupied. The additions were made in the Eastern and St. Rollox districts, and in portions of these there is evidence that the houses erected ten or twelve years ago are being vacated for those more recently erected.

UNOCCUPIED HOUSES.

Through the courtesy of the City Assessor, I am able to include a statement of the houses which were found unoccupied at 1st June, 1906:—

TABLE C.

Number of UNOCCUPIED HOUSES in the several MUNICIPAL WARDS, classfied according to size, as at 1st June, 1906.

WARDS.	1 Apartment.	2 Apartments.	3 Apartments.	4 Apartments.	5 Apartments.	TOTAL.
1. Dalmarnock, ...	442	689	54	2	1	1,188
2. Calton, ...	176	259	64	38	7	536
3. Mile-end, ...	299	588	83	4	1	975
4. Whitevale, ...	167	376	97	20	7	667
5. Dennistoun, ...	55	194	183	57	31	520
6. Springburn, ...	458	576	93	8	1	1,136
7. Cowlairs, ...	154	301	55	4	1	515
8. Townhead, ...	106	359	99	34	19	617
9. Blackfriars, ...	82	142	71	13	16	324
10. Exchange, ...	12	10	10	6	2	40
11. Blythswood, ...	—	2	3	13	10	28
12. Broomielaw, ...	14	55	23	10	3	105
13. Anderston, ...	49	125	55	19	35	283
14. Sandyford, ...	85	86	59	24	64	318
15. Park, ...	7	21	27	43	116	214
16. Cowcaddens, ...	363	467	82	29	21	963
17. Woodside, ...	155	405	99	19	49	727
18. Hutchesontown, ...	162	391	63	5	5	626
19. Gorbals, ...	65	126	176	60	59	486
20. Kingston, ...	74	170	211	67	10	532
21. Govanhill, ...	71	401	208	41	15	736
22. Langside, ...	—	104	349	178	137	768
23. Pollokshields, ...	4	4	16	41	110	175
24. Kelvinside, ...	—	14	78	33	137	262
25. Maryhill, ...	196	654	148	55	82	1,135
26. Kinning Park, ...	34	71	33	6	5	149
City, ...	3,230	6,590	2,440	821	944	14,025

SOURCES OF INCREASE.

The importance attaching to the estimates of population just given is increased when they are viewed in relation to the figures which express the natural growth of the population during the year.

The total number of births after correction in 1906 was 24,395, and of deaths 14,117, leaving an excess of births over deaths of 10,278.

But the estimated addition to the population (apart from the inclusion of 13,551 in Kinning Park) was only 4,162.

The differences thus arising will be better appreciated by comparing the natural increase with the estimated rates of the Registrar-General and Medical Officer respectively:—

	Registrar-General's Estimate.	Medical Officer's Estimate.	Natural Increase added to Registrar-General's 1905 Estimate.
Population, 1905, ...	809,986	785,474	—
„ 1906, ...	835,625*	803,187*	820,264
Increase, ...	25,639	17,713	10,278
Percentage Increase, ...	3·1	2·2	1·3

* These figures include, for the first time, the population of Kinning Park, which was estimated to be 13,551.

By natural growth alone the population would have increased 1·3 per cent., and the Registrar-General's estimate assumes that this has been retained and the population further increased by 1·7 per cent. from the inclusion of Kinning Park. This would leave a slight excess to be accounted for by surplus immigration, but the house estimate suggests that the actual increase fell short of the surplus births by 6,116.

The acreage, number of inhabited houses, and estimated population in each of the wards, with the increase or decrease, compared with the Census year, is contained in the following Table I.:—

TABLE I.—ACREAGE, INHABITED HOUSES, and PERSONS per ACRE in each MUNICIPAL WARD in 1906; also the POPULATION and PERSONS per ACRE at the CENSUS of 1901, and the PERCENTAGE INCREASE or DECREASE in the POPULATION during the Intervening Period.

MUNICIPAL WARDS.	Acreage, 1906.	Inhabited Houses, 1906.	POPULATION.						Persons per Acre (including Institutions and Shipping).	
			Census 1901.	Estimated, Middle of 1906.	Increase.	Decrease.	Increase per Cent.	Decrease per Cent.	Census 1901.	1906.
1. Dalmarnock, ...	562	11,027	49,210	49,987	777	...	1·6	...	89	89
2. Calton, ...	337	7,896	39,045	36,060	...	2,985	...	7·7	123	113
3. Mile-end, ...	512	9,799	42,110	44,669	2,559	...	6·1	...	83	83
4. Whitevale, ...	321	6,942	33,897	32,789	...	1,108	...	3·3	111	104
5. Dennistoun, ...	718	7,929	30,482	36,153	5,671	...	18·6	...	45	52
6. Springburn, ...	1,531	9,075	37,744	43,274	5,530	...	14·7	...	26	30
7. Cowlairs, ...	865	6,375	26,597	31,170	4,573	...	17·2	...	31	36
8. Townhead, ...	261	8,100	40,492	38,260	...	2,232	...	5·5	163	146
9. Blackfriars, ...	146	4,479	24,333	21,817	...	2,516	...	10·3	173	156
10. Exchange, ...	123	384	2,326	2,079	...	247	...	10·6	23	21
11. Blythswood, ...	90	600	4,101	3,279	...	822	...	20·4	48	40
12. Broomielaw, ...	104	1,444	9,633	7,556	...	2,077	...	21·5	102	87
13. Anderston, ...	462	6,108	29,934	28,788	...	1,146	...	3·8	68	65
14. Sandyford, ...	138	5,241	26,449	25,026	...	1,423	...	5·4	192	182
15. Park, ...	346	5,071	24,903	24,870	...	33	...	0·1	74	74
16. Cowcaddens, ...	173	7,776	40,380	36,458	...	3,922	...	9·7	239	217
17. Woodside, ...	283	9,506	45,447	43,454	...	1,993	...	4·4	161	154
18. Hutchesontown, ...	224	8,918	42,284	39,932	...	2,352	...	5·5	189	178
19. Gorbals, ...	243	7,382	35,750	35,876	126	...	0·4	...	151	150
20. Kingston, ...	412	7,233	34,386	34,401	15	...	0·04	...	85	85
21. Govanhill, ...	449	7,463	31,639	33,985	2,346	...	7·4	...	70	75
22. Langside, ...	840	8,498	25,337	38,801	13,464	...	53·1	...	31	46
23. Pollokshields, ...	1,353	3,454	15,317	17,765	2,448	...	15·3	...	11	13
24. Kelvinside, ...	917	4,229	15,611	21,788	6,177	...	39·5	...	18	25
25. Maryhill, ...	1,278	8,579	33,717	39,834	6,117	...	18·1	...	28	32
26. Kinning Park, ...	108	2,798	...	13,551	...	...	...	...	...	125
— Institutions and Shipping, ...	...	...	20,588	21,565	977	...	4·7	...	...	...
CITY, ...	12,796	166,306	761,712	803,187	* 27,924	...	* 3·7	...	60·1	62·8

* These do not include the Kinning Park figures.

MARRIAGES.

In 1906 there were 7,630 marriages registered in Glasgow, as compared with 6,968 in 1905. These represent rates per thousand persons living of 9·1 and 8·6 respectively.

For a series of years the marriage-rate per 100,000 living has been as follows:—

1870, ...	980*	1891-95, ...	895
1871-75, ...	992	1896-1900, ...	989
1876-80, ...	901	1901-05, ...	908
1881-85, ...	937	1906, ...	913
1886-90, ...	884		

The practice of stating the marriage-rate in relation to the total number of persons living is not without error, and in particular it fails to reflect accurately the true rate of decrease when this is accompanied by a shrinking of the proportion of the population under or over the usual marriage ages. This shrinking is, we know, in fact occurring in the earlier years of life, and in the following Table, which is constructed on lines similar to that contained in the Report of the Registrar-General for England for 1903, page vi., it is shown that when the marriage-rate is calculated on the population at all ages a decrease of 9 per cent. only is shown during the last thirty-six years; whereas when it is calculated on the unmarried and widowed population over 15 years of age the reduction actually amounts to 15 per cent.:—

Glasgow.—Mean Annual Marriage-rates.

	Calculated on Total Population at All Ages.		Calculated on the Unmarried Females and Widows aged 15 years and upwards.	
	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.
1870-72	10·0	100	54·7	100
1880-82	8·8	88	50·7	93
1890-92	9·5	95	46·5	85
1900-02	9·6	96	50·9	93
1906	9·1	91	46·4	85

* From the Registrar-General's Annual Reports.

BIRTHS.

24,560 births were registered in Glasgow during the year 1906, and after deducting those born within the municipal area not belonging to Glasgow, and adding those born beyond the municipal area but belonging to Glasgow, there remain 24,395 births properly belonging to the City. This represents a birth-rate of 30·373 per 1,000 persons living, calculated on the Medical Officer's estimate of the population, as compared with 24,316 births, representing a birth-rate of 30·778 in 1905. The birth-rate is now lower than any previously recorded, and represents a fall in the rate equal to 405 per million compared with 1905.

As with the marriage-rate so it is with the birth-rate when calculated over the total population, and a correction similar to that adopted in calculating the former is here introduced, save that the amended birth-rates are calculated on the number of females living between the ages of 15 and 45 years. Again there is illustration that the decrease shown in calculating the birth-rate over the whole population falls short of that which is actually occurring, and that although it is now 28 per cent. below the average for 1870-72, when calculated on the whole population, the actual reduction amounts to 35 per cent. when calculated on the number of women at child-bearing ages.

GLASGOW.—MEAN ANNUAL BIRTH-RATE.

	Calculated as a proportion per 1,000 on Total Population at All Ages.		Calculated as a proportion per 1,000 on the Number of Women aged 15-45 years.	
	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.	Rate per 1,000.	Compared with Rate in 1870-72, taken as 100.
1870-72	40·9	100	173·5	100
1880-82	35·9	88	150·7	86
1890-92	35·2	86	125·6	72
1900-02	32·1	79	124·2	72
1906	29·4	72	113·0	65

Returning to the usual method of stating these rates we have the following for several periods since 1871:—*

	Glasgow.	Scotland.
1871-80, ...	36·6	34·9
1881-90, ...	36·5	32·4
1891-95, ...	33·9	30·7
1896-1900, ...	33·1	30·0
1901-1905, ...	31·3	28·9
1906, ...	29·4	27·9

During the decade 1896-1905, and in 1906, the rates for the following large towns have been as follows:—*

	1896-1905.	1906.
Glasgow, ...	**32·3**	**29·4**
Edinburgh, ...	25·8	22·4
Dundee, ...	28·8	27·4
Aberdeen, ...	31·7	27·5
London, ...	28·9	26·5
Liverpool, ...	34·4	32·7
Manchester, ...	31·9	29·3
Birmingham, ...	32·4	29·4

While the birth-rate for Glasgow exceeds that of the other large towns in Scotland, it is continuously lower than that of Liverpool, a difference which would probably be explained by a comparison of the age distribution of the two populations.

In the several wards of the City it varies greatly, being much above the average in Dalmarnock, Mile-end, Springburn, Hutchesontown, Maryhill, and Kinning Park.

In the following Table the number of births and the rate in each ward is stated, together with the corresponding rates for several former years.

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* The rates in these Tables are taken from the Registrar-General's Annual Reports.

TABLE II.

GLASGOW, 1906.—BIRTHS and BIRTH-RATES *per Million* in each WARD, exclusive of Institutions and Harbour, with corresponding Rates for 1903-5.

MUNICIPAL WARDS.	1903.	1904.	1905.	1906.	
	Rate per Million.	Rate per Million.	Rate per Million.	Number.	Rate per Million.
1. Dalmarnock, ...	40,956	40,627	40,722	1.917	38,350
2. Calton, ...	32,828	32,634	34.625	1,240	34,387
3. Mile-end, ...	41,325	40,341	40,977	1,781	39,871
4. Whitevale, ...	32,506	33,789	32,302	1,062	32,389
5. Dennistoun, ...	29.192	29,783	29,303	969	26,803
6. Springburn, ...	41,852	41,666	40,386	1,718	39,701
7. Cowlairs, ...	35,526	37,017	36,329	1,073	34,424
8. Townhead, ...	32,734	31.940	30,909	1,242	32,462
9. Blackfriars, ...	33,135	32.580	31,733	704	32,268
10. Exchange, ...	22,401	20,107	17,005	48	23,088
11. Blythswood, ...	9,455	11,478	9,612	30	9,149
12. Broomielaw, ...	31,906	30,404	29,770	218	28,851
13. Anderston, ...	34,734	33,456	32,074	956	33,208
14. Sandyford, ...	25,559	22,356	24,817	599	23,935
15. Park, ...	13,345	11,815	11,032	288	11,580
16. Cowcaddens, ...	35,110	34,641	31,866	1,213	33,271
17. Woodside, ...	33.579	32,644	29.973	1,307	30,078
18. Hutchesontown,	40.358	39,598	37,863	1,591	39.843
19. Gorbals, ...	27,890	29,429	28,746	1.080	30,104
20. Kingston. ...	30,436	29,579	30,839	979	28,458
21. Govanhill, ...	35,339	38,011	35,634	1,071	31,514
22. Langside, ...	21,637	19,963	20,013	850	21,907
23. Pollokshields, ...	11,069	10.715	9,808	151	8,500
24. Kelvinside, ...	11,563	12,067	12,593	250	11,474
25. Maryhill, ...	42,821	38,600	40,080	1,475	37,029
26. Kinning Park, ...	...	...	...	516	38,078
— Institutions and Harbour, ...	...	...	...	67	...
CITY, ...	32,042	31,463	30,778	24,395	30,373

DEATHS—ALL CAUSES.

14,889 deaths from all causes were registered in Glasgow during the year 1906. These are subject to correction for deaths occurring in institutions and for extra-mural deaths, as follows:—

Number of deaths registered as occurring within the City, ...	14,889
Deduct deaths occurring in Glasgow, chiefly in Institutions, of persons whose usual residence was beyond the City boundary,	924
	13,965
Add deaths of Glasgow citizens, chiefly in Govan Poorhouse, ...	152
Deaths properly belonging to Glasgow, ...	14,117

On the Medical Officer's estimate of the population, which is lower by 32,438 than that of the Registrar-General, this represents a death-rate of 17·6 per thousand living. This is fractionally above the rate for 1905, and is the second lowest recorded. In 1905 the rate thus calculated was 17·5 per thousand, and the difference is equivalent to an increase of 59 deaths per million living. In 1904 the death-rate was 18·8 per thousand.

On the Registrar-General's estimate of population and uncorrected deaths, the rate is 17·8 per thousand, as compared with 17·9 for 1905.

DEATHS OF NON-RESIDENTS.

In making the foregoing calculation, the usual custom has been followed of referring back to their place of residence the deaths of all persons in public and other institutions for the treatment of the sick. When the place of residence is outwith the City, the death is excluded; and, *per contra*, the calculation includes certain deaths in Govan Poorhouse, when the interval between removal and death seemed to imply that a fatal issue followed the illness for the treatment of which removal had taken place.

But, apart from these groups, other deaths occur, chiefly in poorhouses and asylums, of persons who were formerly resident in Glasgow, and where the immediate cause of death had probably no relation to the primary reason for removal.

It may well happen that, if these deaths occur in institutions in rural districts, the death-rate of the district is artificially raised; on the other hand, to refer them *simpliciter* to the City district from which they may have been several years absent has also certain obvious disadvantages.

If any considerable number were so transferred, the average duration of life would be artificially raised beyond that actually reached by those in permanent residence in the district to which the deaths were returned, and, in any case, to transfer deaths without transferring also the section of the population out of which they occur does not seem to be a permanently tenable position.

Occasion was taken to refer to this question in the Report for 1905, and the desirability of a national system of transcripts under the Registrar-General's Department was pointed out.

In January, 1907, the Local Government Board issued the following circular (Public Health, No. 1, 1907), which deals with the question:—

"Local Government Board,
"Edinburgh, 16th January, 1907.

"Sir,

"The Scottish Branch of the Incorporated Society of Medical Officers of Health have for some time had under consideration a scheme whereby all deaths occurring in public institutions might be allocated to the districts from which the deceased persons came, or to which they were chargeable. For the purpose of securing accurate mortality statistics, the distribution of deaths in institutions, according to the 'usual residence' of persons deceased, is necessary. With this end in view the Society have prepared two forms for the 'Transference of Deaths'—one for the intimation of single deaths, and the other for a series of deaths. A copy of each of these forms is annexed, and the Local Government Board would strongly recommend every Medical Officer of Health to adopt such forms, and thereby assist in the preparation of accurate statistics throughout the whole of Scotland.

"The Society suggest that each Medical Officer of Health should make up returns of all deaths excluded by him as occurring in public institutions in his district, and should transmit the same either weekly, monthly, or at the end of the year (within the first fortnight in January) to the Medical Officer of Health of the districts to which the deceased persons belong. The Society also suggest (1) that the deaths of all tramps that cannot be traced to their homes or a 'usual place of residence' should be accepted by the districts in which they occur; and (2) that the death of a person in ordinary health, who was killed by an accident away from home, should be allocated *to the district in which he resided.*

"In accordance with the instructions of the Registrar-General, Registrars are now required to obtain from the informant of a death the 'usual residence' of the deceased, if that was elsewhere than at the place of death. The Board accordingly suggest that, where the Form of Registrars' Return at present in use, in terms of Section 15 of the Public Health (Scotland) Act, 1897, does not provide that this information shall be furnished, it should be amended accordingly. With regard to the column in the 'Transfer Forms' headed 'Length of Residence if in a Public Institution,' I am to explain that the Registrars are not in a position to supply this information, and the Medical Officer of Health should obtain it personally from the officials of the institution in which the death occurred.

"I am, Sir,

"Your obedient Servant,

"G. FALCONAR STEWART,
Secretary.

"To the Medical Officer of Health."

As a result of the system of transcripts thus introduced, I have obtained certain details of 224 deaths. To include these among the corrected deaths would raise the rate to 17·9 per 1,000, but I have abstained from doing so in order to leave the deaths dealt with on a basis strictly comparable with that of former years. Certain details of cause, age, and place of death of those transcripts are, however, given in the following Tables:—

GLASGOW, 1906.—DEATHS OF PERSONS BELONGING TO GLASGOW OCCURRING IN PUBLIC INSTITUTIONS (excluding Merryflats Poorhouse) AND ELSEWHERE BEYOND THE BURGH, TABULATED ACCORDING TO PLACE AND CAUSE.

PLACE OF DEATH.	Diphtheria and Membranous Croup.	Enteric Fever.	Diarrhœa.	Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer.	Diseases of Nervous System.	Diseases of Circulatory System.	Croup.	Diseases of Respiratory System.	Pneumonia.	Influenza.	Violence.	Erysipelas.	Others.	All Causes.
Scotland.																	
Aberdeen,	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	3
Arbroath,	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Ayr,	2	...	1	...	1	...	...	1	1	1	1	1	...	4	...	1	14
Argyll (County),	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
Dumfries,	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	2
Dumbarton,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Dunoon,	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2
Edinburgh,	...	...	...	...	3	1	1	...	...	...	1	1	...	1	...	3	11
Govan,	...	...	...	1	...	...	1	...	1	...	2	...	...	3	...	5	13
Greenock,	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
Kincardine (County),	...	...	...	...	...	...	...	...	...	...	...	...	..	1	...	...	1
Kirkcudbright and Wigtown Counties,	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Kirriemuir,	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	1	1
Lanark (County),	...	...	1	1	13	3	...	4	13	...	3	1	1	4	1	17	62
Oban,	...	...	...	...	...	...	1	...	...	...	...	..	...	...	...	...	1
Paisley,	...	...	1	1	2	...	...	...	1	...	...	...	...	1	...	...	6
Partick,	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	3
Renfrew (County),	1	1	...	1	7	4	...	3	17	...	...	1	...	4	...	20	59
Rothesay,	...	...	...	2	1	...	1	...	...	...	1	...	...	...	...	1	6
Selkirk,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Stirling,	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Stirling and Dunbarton (Counties),	...	...	1	...	5	1	...	2	4	...	1	2	1	5	1	3	26
England.																	
Durham County,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Hampstead,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Paddington,	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
York,	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
	3	1	4	7	33	10	6	10	39	1	11	7	2	27	2	61	224

Glasgow, 1906.—Deaths of Persons belonging to Glasgow occurring in Public Institutions (Lunatic Asylums, Poorhouses, Hospitals) and elsewhere, but excluding Merryflats Poorhouse, tabulated according to Disease and Age.

Age.	Diphtheria and Membranous Croup.	Enteric Fever.	Diarrhœa.	Septic Diseases.	Phthisis.	Other Tuberculous Diseases.	Cancer.	Diseases of Nervous System.	Diseases of Circulatory System.	Croup.	Diseases of Respiratory System.	Pneumonia.	Influenza.	Violence.	Erysipelas.	Others.	All Causes.
Under 1 year, - - -	...	...	1	...	...	...	...	2	...	...	...	...	...	2	...	1	6
1—5 years, - -	1	...	1	...	2	1	...	2	...	1	1	2	...	...	...	...	11
5—15 „ - -	2	1	...	...	2	2	...	2	...	...	1	2	...	...	...	1	13
15—25 „ - -	...	...	...	...	5	1	...	...	5	...	...	...	...	4	1	...	16
25—60 „ - -	...	...	1	2	23	6	5	3	16	...	6	1	...	20	...	42	125
60 and upwards, -	...	...	1	5	1	...	1	1	18	...	3	2	2	1	1	17	53
Under 5 years, - -	1	...	2	...	2	1	...	4	...	1	1	2	...	2	...	1	17
5 years and upwards, -	2	1	2	7	31	9	6	6	39	...	10	5	2	25	2	60	207
Total, - -	3	1	4	7	33	10	6	10	39	1	11	7	2	27	2	61	224

In the Report for 1905 the deaths occurring in institutions within the City, and not referable to any district, were tabulated with regard to age and cause, and these Tables are again repeated for 1906. Phthisis and diseases of the organs of respiration contributed one-third of these deaths, which, in all, number 1,103, and form 7·8 per cent. of the total deaths. 64 per cent. occurred in poorhouses, and 23 per cent. among the lodging-house population.

GLASGOW, 1906.—INSTITUTIONAL DEATHS.—SUMMARY.

CAUSE OF DEATH.	Poorhouses.	Lodging-houses.	Infirmaries, Hospitals, &c.	Homes for Old Men and Women and Orphans, Barracks, Prison, and Harbour.	Total.
Diphtheria, ...	...	...	1	...	1
Scarlet Fever, ...	...	...	1	...	1
Enteric Fever, ...	1	1	2	...	4
Measles, ...	10	2	4	...	16
Whooping-cough, ...	...	1	...	...	1
Diarrhœa, ...	21	2	3	...	26
Septic Diseases, ...	2	2	...	1	5
Phthisis, ...	160	38	10	2	210
Other Tuberculous Diseases,	25	3	...	...	28
Cancer, ...	28	9	...	1	38
Nervous Diseases, ...	94	17	10	7	128
Circulatory Diseases, ...	107	41	...	16	164
Respiratory Diseases, ...	104	58	7	9	178
Violence, ...	6	10	5	13	34
Premature Birth, ...	11	2	1	...	14
Unknown, ...	...	4	...	2	6
Others, ...	140	58	27	24	249
	709	248	71	75	1,103
Per cent., ...	64·3	22·5	6·4	6·8	100

Glasgow, 1906.—INSTITUTIONAL Deaths.—Analysis of Causes and Ages.

Cause of Death.	Ages.							Total.
	-1	-5	-15	-20	-25	-60	60+	
Diphtheria, ...	...	1	...	...	...	...	...	1
Scarlet Fever, ...	...	1	...	...	...	...	...	1
Enteric Fever, ...	...	...	...	...	3	1	...	4
Measles, ...	1	13	1	...	...	1	...	16
Whooping-cough, ...	...	1	...	...	...	...	...	1
Diarrhœa, ...	16	4	...	...	...	4	2	26
Septic Diseases,... ...	...	...	...	...	...	3	2	5
Phthisis,...	2	2	4	15	28	133	26	210
Other Tuberculous Diseases,	5	3	9	3	1	6	1	28
Cancer, ...	...	...	...	...	...	14	24	38
Nervous Diseases, ...	...	1	1	1	2	47	76	128
Circulatory Diseases, ...	...	...	...	2	3	49	110	164
Respiratory Diseases, ...	6	7	1	1	2	62	99	178
Violence, ...	1	1	...	1	1	20	10	34
Premature Births, ...	14	...	..	...	...	...	...	14
Unknown, ...	1	...	...	...	...	4	1	6
Others, ...	18	1	5	2	3	82	138	249
	64	35	21	25	43	426	489	1,103
Per thousand Institutional Deaths, ...	58	32	19	23	39	386	443	1,000

COMPARATIVE INCIDENCE OF DEATHS FROM SEVERAL CAUSES.

In the following Table the death-rates from several causes in 1905 and 1906 are compared:—

TABLE III.

GLASGOW, 1906.—DEATH-RATES per 1,000, from "All" and "Specified" Causes, with corresponding Rates for 1905.

	1905.		1906.		−	+	−	+
I. PRINCIPAL ZYMOTIC DISEASES, ...	...	2·500	...	2·436	...	...	·064	...
Smallpox, ...	·001	...	...	...	·001	...	...	...
Diphtheria, ...	·136	...	·169	...	...	·033	...	...
Scarlet Fever, ...	·045	...	·062	...	...	·017	...	...
Typhus Fever, ...	·018	...	·002	...	·016	...	...	...
Enteric and Continued Fevers,	·067	...	·102	...	...	·035	...	...
Cerebro-Spinal Fever, ...	...	...	·178	...	...	·178	...	...
Measles, ...	·701	...	·492	...	·209	...	...	...
Whooping-cough, ...	·791	...	·498	...	·293	...	...	...
Diarrhœa, ...	·741	...	·933	...	...	·192	...	...
II. SEPTIC DISEASES, ...	...	·153	...	·181	...	...	...	·028
III. TUBERCULOUS DISEASES, ...	...	2·510	...	2·648	...	...	...	·138
Phthisis, ...	1·437	...	1·513	...	...	·076	...	...
Other Tuberculous Diseases, ...	1·073	...	1·135	...	...	·062	...	...
IV. CANCER (Malignant Disease), ...	...	·712	...	·730	...	...	...	·018
V. DISEASES OF NERVOUS SYSTEM, ...	...	1·532	...	1·551	...	...	...	·019
VI. ,, CIRCULATORY SYSTEM,	...	1·622	...	1·727	...	...	...	·105
VII. ,, RESPIRATORY ,,	...	3·633	...	3·365	...	...	·268	...
Pneumonia, ...	...	...	1·657	...	...	...	...	...
Other Respiratory Diseases, ...	...	...	1·708	...	...	...	...	...
VIII. OTHER CAUSES, ...	...	4·855	...	4·938	...	...	...	·083
All Causes, ...	...	17·517	...	17·576	...	...	...	·059
Birth-rate, ...	...	30·778	...	30·372	...	...	...	...
Deaths under 1 year per 1,000 Births,	...	131	...	131	...	...	...	...

In the column of *plus* and *minus* differences the contrasts are readily seen.

The rate from zymotic diseases as a class is lower by 64, and from diseases of respiration (including pneumonia) by 268 *per million*. In all the other principal classes there is an increase, which is greatest in those of the tuberculous group, the balance of loss being equal to 59 per million.

Among the sub-groups of the zymotic class a reduction occurred in the rate from smallpox (from which there were no deaths), typhus fever, measles, and whooping-cough, and an increase in the rates from diphtheria, scarlet fever, enteric and continued fevers, cerebro-spinal fever, and diarrhœa.

An increase also occurred in both sub-groups of the tuberculous class, and, as we shall see later (p. 108), in the deaths from tubercular meningitis and abdominal tubercle.

For several periods the death-rate from all causes, calculated on the inhabited-house estimate of the population and on the deaths corrected, as formerly indicated, has been as follows :—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890,	24·22
1891-1900,	21·53
1901,	20·63
1902,	19·38
1903,	18·52
1904,	18·84
1905,	17·52
1906,	17·58

In order to compare these rates with those of other towns, we must revert to the deaths as registered and to the Registrar-General's estimate of the population, and in the following Table the rates are given for several of the large towns in England and Scotland :—

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1896-1905.	1906.
Glasgow,	**20·5**	**17·8**
Edinburgh,	18·4	16·0
Dundee,	19·7	19·6
Aberdeen,	18·1	15·1
London,	17·7	15·1
Liverpool,	23·1	20·6
Manchester,	21·7	19·2
Birmingham,	19·8	16·8

Among towns in Scotland the rate for Glasgow is exceeded by that for Dundee, and among towns in England by those for Liverpool and Manchester.

WARD DEATH-RATES.

In Table IV., which follows, the deaths and death-rates for each of the several Wards are given for 1906, and, for comparison, the corresponding rates for the three years preceding :—

TABLE IV.

GLASGOW, 1906.—ALL CAUSES.—DEATHS and DEATH-RATES *per Million* in each MUNICIPAL WARD, with corresponding rates for 1903, 1904, and 1905.

MUNICIPAL WARDS.	1903.	1904.	1905.	1906.	
	Rate per Million.	Rate per Million.	Rate per Million.	Deaths.	Rate per Million.
1. Dalmarnock. ...	19,249	20,096	19.916	960	19,205
2. Calton, ...	22,844	23.626	20,905	780	21,631
3. Mile-end, ...	23,233	21,931	20,096	883	19,768
4. Whitevale, ...	19,184	20,340	19,375	604	18,421
5. Dennistoun, ...	13,258	13,519	11,778	462	12,779
6. Springburn, ...	18,665	18,918	17,413	753	17.401
7. Cowlairs, ...	15.312	16,778	15,547	478	15.335
8. Townhead, ...	18,405	18,575	18,478	704	18,400
9. Blackfriars, ...	22,524	21,913	20,658	434	19,893
10. Exchange, ...	18,369	17,426	18,422	30	14,430
11. Blythswood. ...	13,626	16,643	11,415	27	8,234
12. Broomielaw. ...	27,588	20,517	22,004	160	21,175
13. Anderston, ...	18,470	19,387	18,318	533	18,515
14. Sandyford, ...	15.478	16,805	17,454	476	19.020
15. Park, ...	10,940	10,784	10,473	280	11,259
16. Cowcaddens, ...	23.949	24,744	21,422	797	21,861
17. Woodside, ...	15,179	15,912	14,296	723	16,638
18. Hutchesontown,	19,512	22,669	19,882	754	18,882
19. Gorbals, ...	18,966	18,051	16,965	569	15,860
20. Kingston, ...	18,727	17,850	17,474	599	17,412
21. Govanhill, ...	13,999	15,996	13,714	516	15,183
22. Langside, ...	10,363	9,614	8,688	362	9,330
23. Pollokshields. ...	9,656	8,741	8,575	151	8,500
24. Kelvinside, ...	8,009	7,090	7,120	158	7,252
25. Maryhill, ...	14,951	15,919	14,318	575	14,435
26. Kinning Park, ...	...	...	...	246	18,154
— Institutions and Harbour. ...	...	...	...	1,103	...
CITY, ...	18,524	18.835	17,517	14,117	17,576

On the average rates for these years it is now possible, with some degree of accuracy, to grade the Wards in relation to the mean for the City, and I select for illustration seven in which the rate is continuously in excess. These are as follows:—

Ward.	Average Death-rate per 1,000. 1903-5.	Ward.	Average Death-rate per 1,000. 1903-5.
Cowcaddens, ...	23·4	Blackfriars, ...	21·7
Broomielaw, ...	23·4	Dalmarnock, ...	19·8
Calton, ...	22·5	Whitevale, ...	19·6
Mile-end, ...	21·8	City, ...	18·3

Cowcaddens Ward, it will be remembered, contains the old Sanitary District of that name, and Broomielaw similarly includes Brownfield and a portion of Anderston. Calton has much of the old Calton and St. Andrew's Square Sanitary Districts, and Mile-end, with Dalmarnock, contains Barrowfield. Blackfriars includes a portion of Gorbals, and Whitevale a portion of that formerly known as High Street and Closes East.

NUMBER AND AGE-DISTRIBUTION OF DEATHS IN SEVERAL CLASSES OF DISEASE.

In the following Table V. these are stated for seven age-periods:—

TABLE V.

Glasgow, 1906.—DEATHS from Different Diseases at several Age-Periods.

DISEASES.	Total, All Ages.	Under 1 Year.	– 5 Years.	– 15 Years.	– 20 Years.	– 25 Years.	– 60 Years.	60 and Over.	Under 5 Years.	5 Years and Over.
Smallpox, ...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Membranous Croup, ...	136	14	81	36	2	1	2	...	95	41
Scarlet Fever, ...	50	4	30	14	...	1	1	...	34	16
Typhus Fever, ...	2	...	...	...	...	1	1	...	...	2
Enteric Fever, ...	82	1	2	11	13	14	39	2	3	79
Undefined Fever, ...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever,	143	34	44	44	10	4	7	...	78	65
Measles, ...	395	97	281	16	...	...	1	...	378	17
Whooping-cough, ...	400	145	238	17	...	...	...	...	383	17
Diarrhœal Diseases,	749	475	173	12	4	6	48	31	648	101
Septic Diseases,* ...	145	27	6	3	3	15	80	11	33	112
Phthisis, ...	1,215	16	33	66	143	148	750	59	49	1,166
Other Tuberculous Diseases, ...	912	253	417	143	29	18	45	7	670	242
Cancer, ...	586	2	3	1	3	2	319	256	5	581
Diseases of Nervous System, ...	1,246	155	52	128	32	20	376	483	207	1,039
Diseases of Circulatory System, ...	1,387	54	12	36	32	30	600	623	66	1,321
Pneumonia, ...	1,331	369	367	52	28	28	410	77	736	595
Other Respiratory Diseases, ...	1,422	273	182	23	6	13	347	578	455	967
Violence, ...	458	33	69	59	14	18	202	63	102	356
Premature Birth, ...	458	458	...	...	...	...	...	...	458	...
Uncertified (or Unknown), ...	30	10	2	1	...	...	15	2	12	18
Other Causes, ...	2,970	762	175	100	59	71	887	916	937	2,033
All Causes, ...	14,117	3,182	2,167	762	378	390	4,130	3,108	5,349	8,768
Number in 1,000 dying in several Age-Periods,	1,000	225	154	54	27	27	293	220	379	621

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* These include Erysipelas, Puerperal Fever, Pyæmia, and Septicæmia.

23 per cent. of the total deaths occurred in the first year of life, and 38 per cent. within the first five years.

Of 749 deaths from diarrhœal diseases, 63 per cent. occurred under one year and 86 per cent. under five years of age. The diarrhœal deaths under one year formed 15 per cent. of the total deaths at that age.

Of 2,753 deaths from pneumonia and other diseases of respiration, 23 per cent. occurred in the first year of life and 43 per cent. in the first five years. The deaths under one year from these diseases contributed 20 per cent. of the number occurring.

The most frequent form of fatal diseases are those of respiration (including pneumonia), which caused 2,753 deaths; phthisis alone, 1,215; or together with other tuberculous diseases, 2,127.

In Calton, Mile-end, Blackfriars, and Cowcaddens, the rate for tuberculous diseases (all classes) is much above the mean for the City. Together with diseases of the respiratory system, these afford a more accurate indication of the conditions affecting health than the group of infectious diseases, which, indeed, they now much exceed in volume.

TABLE SHOWING AVERAGE DEATH-RATES PER MILLION IN CERTAIN WARDS FOR THE THREE YEARS 1903-05 AND FOR 1906.

MUNICIPAL WARDS.	All Causes.		Infectious Diseases.		Tuberculous Diseases.		Diseases of Respiratory System.		Premature Births.		All other Causes.	
	1903-05.	1906.	1903-05.	1906.	1903-05.	1906.	1903-05.	1906.	1903-05.	1906.	1903-05.	1906.
16. Cowcaddens, ...	23,372	21,861	3,364	3,812	3,028	2,935	6,258	4,773	679	521	10,070	9,820
12. Broomielaw, ...	23,370	21,175	3,679	3,705	2,651	2,514	4,992	4,368	485	529	11,558	10,059
2. Calton, ...	22,458	21,631	3,576	3,023	3,493	3,050	4,909	4,437	695	804	9,762	10,316
3. Mile-end, ...	21,753	19,768	3,578	4,007	3,340	2,665	4,420	3,895	671	806	9,705	8,396
9. Blackfriars, ...	21,698	19,893	2,743	2,568	3,201	2,750	5,593	5,134	648	504	9,512	8,937
1. Dalmarnock, ...	19,754	19,205	3,608	3,440	2,849	2,800	4,320	3,720	763	880	8,212	8,363
4. Whitevale, ...	19,633	18,421	2,837	3,261	3,115	3,110	4,121	3,324	611	366	8,946	8,355
CITY, ...	18,292	17,576	2,446	2,436	2,723	2,648	3,889	3,427	591	570	8,640	8,495

As indicated in former Reports, some division of the Wards for statistical purposes will ultimately be required, in order that the true density of small areas, together with other factors expressing unhealthiness, may be more accurately defined; and it is of interest at the present moment to continue the record, begun on page 15 of the Annual Report for 1903, of the deaths in the old Sanitary Districts of Brownfield and Cowcaddens. In the figures given in the annexed statement, the population and deaths include those resident and occurring in Institutions and Shipping.

BROWNFIELD AND COWCADDENS.

Number of Inhabited Houses, Estimated Population, Deaths, and Death-rates in old Sanitary Districts of Brownfield and Cowcaddens, Nos. 13 and 16.

District.		Number of Houses.	Persons per House at Census, 1901.	Population, including Institutions.	Number of Deaths.	Death-rate per 1,000.
Brownfield, -	1901	696	5·218	3,924	144	40·4
	1902	670	...	3,768	112	32·5
	1903	596	...	3,321	103	33·6
	1904	553	...	3,237	67	20·7
	1905	543	...	3,179	66	20·8
	1906	537	...	3,102	80	25·8
Cowcaddens, -	1901	3,651	4·568	18,206	586	33·4
	1902	3,969	...	18,824	499	27·9
	1903	3,878	...	18,589	533	28·7
	1904	3,717	...	18,129	521	29·2
	1905	3,591	...	17,536	410	23·4
	1906	3,435	...	16,351	450	27·5

INFANTILE MORTALITY.

3,185 deaths of infants under one year occurred during 1906, which represents a death-rate per 1,000 born of 131. This is the same rate as for 1905, and 3 per 1,000 above the lowest rate formerly recorded (1902). Of these deaths 2,790 were of legitimate and 395 of illegitimate children, representing rates of 122 and 244 respectively per 1,000 births of each class. For several years the rate per 1,000 born of each class has been—

	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
Infantile death-rate of legitimate children,	147	143	145	141	126	132	131	122	122
Infantile death-rate of illegitimate children,	302	286	286	269	244	298	342	263	244

and for both classes during several periods as follows:—

Average of 5 years, 1886-90, = 143 per 1,000 births.
,, 1891-95, = 146 ,,
,, 1896-1900, = 151 ,,
,, 1901, = 149 ,,
,, 1902, = 128 ,,
,, 1903, = 142 ,,
,, 1904, = 145 ,,
,, 1905, = 131 ,,
,, 1906, = 131 ,,

Compared with several large towns the infantile mortality in 1896-1905 and in 1906 is as follows:—*

	1896-1905.	1906.
Glasgow, ...	**146**	**131**
Edinburgh, ...	138	118
Dundee, ...	165	170
Aberdeen, ...	144	128
Paisley, ...	129	114
Greenock, ...	132	127
London, ...	151	131
Liverpool, ...	180	172
Manchester, ...	183	167
Birmingham, ...	185	168

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* The figures for 1896-1904 are from the Registrar-General's Detailed Annual Reports; for 1905-1906 from the Supplement to the Monthly and Quarterly Returns for these years.

Among the principal towns in Scotland the infantile death-rate for Glasgow was exceeded by that of Dundee, and among English towns by those for Liverpool, Manchester, and Birmingham.

In the several Wards of the City the rate varies considerably, as is shown in the following Table VI.: —

TABLE VI.

Glasgow, 1906.—DEATHS under One Year and Death-rate per 1,000 Births in each Municipal Ward, with corresponding Rates for 1903-5.

Municipal Wards.	Average of 4 years.	Rate per 1,000 Births.			1906.	
		1903.	1904.	1905.	Deaths.	Rate per 1,000 Births.
1. Dalmarnock, ...	143	140	149	141	272	142
2. Calton, ...	168	183	196	149	178	144
3. Mile-end, ...	148	152	172	124	258	145
4. Whitevale, ...	151	146	163	151	153	144
5. Dennistoun, ...	94	101	104	76	91	94
6. Springburn, ...	136	142	148	129	215	125
7. Cowlairs, ...	123	119	122	121	137	128
8. Townhead, ...	142	145	126	150	182	147
9. Blackfriars, ...	160	183	156	158	100	142
10. Exchange, ...	108	140	89	139	3	63
11. Blythswood, ...	243	177	375	219	6	200
12. Broomielaw, ...	161	199	163	139	31	142
13. Anderston, ...	148	132	159	161	134	140
14. Sandyford, ...	151	148	136	155	99	165
15. Park, ...	89	102	87	83	24	83
16. Cowcaddens, ...	179	194	177	176	204	168
17. Woodside, ...	123	121	126	123	161	123
18. Hutchesontown,	140	130	161	134	211	133
19. Gorbals, ...	136	151	151	122	131	121
20. Kingston, ...	144	164	139	127	142	145
21. Govanhill, ...	110	117	118	99	113	106
22. Langside, ...	61	69	87	39	40	47
23. Pollokshields, ...	68	117	32	63	9	60
24. Kelvinside, ...	67	73	71	81	11	44
25. Maryhill, ...	108	106	122	102	149	101
26. Kinning Park, ...	...	...	...	...	67	130
— Institutions and Shipping, ...	...	...	...	...	64	...
CITY, ...	137	142	145	131	3,185	131

It is interesting to observe that in Cowcaddens Ward, which has received special attention from the committee dealing with the question of infantile mortality, the rate has steadily fallen since 1903, when the Ward distribution of deaths was adopted. The basis of observation is, of course, too limited for sound deduction, but the indications of a steady fall in the infant death-rate in this district are distinctly encouraging.

The average infantile death-rate for the four years for which it is now available for the several Wards has been given in the foregoing Table, and, with a little alteration in the order, the same Wards that are found with death-rates from all causes considerably in excess of the rate for the City again present the highest infantile rates. Blythswood is a notable exception:—

Wards.	Order of General Death-Rate.	Wards.	Order of Infantile Mortality.
Cowcaddens, ...	21·9	Cowcaddens, ...	179
Calton, ...	21·6	Calton, ...	168
Broomielaw, ...	21·2	Broomielaw, ...	161
Blackfriars, ...	19·9	Blackfriars, ...	160
Mile-end, ...	19·8	Sandyford, ...	151
Sandyford, ...	19·0	Whitevale, ...	151
Anderston, ...	18·5	Anderston, ...	148
Whitevale, ...	18·4	Mile-end, ...	148

The two Tables which follow, and which show the causes of death tabulated for each week of the first month of life and for each of the remaining months, confirm the impression created by those similarly constructed for previous years. Diseases of immaturity contribute almost one-third of the total infant deaths, while diseases of the organs of respiration and of digestion form about one-fifth each:—

TABLE VIa.

Glasgow, 1906.—MALE Infant Deaths at Given Ages and from Several Causes.

CAUSE OF DEATH.	Age in Weeks.					Age in Months.											Totals.	Group Totals.	Group Percentages.	Death-rate per 1,000 Male Births.
	1st	2nd	3rd	4th	Total.	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th				
I. Immaturity, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	580	32·8	47
(a) Premature Birth, ...	193	30	17	11	251	15	4	2	1	...	1	...	...	...	...	...	274	...	...	...
(b) Congenital Malformations, ...	13	7	3	...	23	2	3	1	...	...	...	1	...	1	...	...	31	...	...	...
(c) Atelectasis, ...	10	...	3	1	14	...	...	...	...	...	...	...	...	...	...	...	14	...	...	...
(d) Atrophy and Debility, ...	60	35	30	14	139	45	26	13	12	7	6	3	2	2	5	1	261	...	...	...
II. Diseases of Respiratory Organs,	2	1	10	7	20	33	26	27	31	28	28	34	34	32	25	27	...	345	19·5	28
III. Diseases of Digestion, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	340	19·2	28
(a) Diarrhœal, ...	3	2	6	6	17	30	40	37	22	19	11	18	18	12	9	7	240	...	...	...
(b) Dentition, ...	...	...	...	...	...	...	...	1	...	...	1	...	3	1	5	4	15	...	...	...
(c) Others, ...	1	7	...	3	11	9	12	13	10	7	6	3	4	4	2	4	85	...	...	...
IV. Diseases of Nervous System, ...	15	6	7	6	34	23	13	11	14	10	8	15	8	19	15	8	...	178	10·1	14
V. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	4·4	6
(a) Tabes Mesenterica, ...	...	...	...	...	...	...	1	...	1	1	2	2	5	1	...	...	13	...	...	...
(b) Tubercular Meningitis, ...	...	...	...	...	...	1	...	...	3	1	5	3	3	5	2	2	25	...	...	...
(c) Other Forms, ...	...	...	...	1	1	2	5	2	4	2	6	2	2	7	4	3	40	...	...	...
VI. Accidents of Birth, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	0·7	1·1
(a) Injury, ...	8	2	...	...	10	1		...	...	...	...	...	...	1	...	...	12	...	...	...
(b) Umbilical Hæmorrhage, ...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
VII. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	150	8·5	12
(a) Whooping-cough, ...	...	1	1	2	4	5	7	5	3	5	3	9	7	7	6	3	64	...	...	...
(b) Measles, ...	...	...	...	...	...	1	...	...	...	1	4	9	11	15	7	10	58	...	...	...
(c) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	2	..	...	...
(d) Erysipelas, ...	1	1	3	3	8	1	2	...	...	...	...	...	...	...	...	...	11	...	...	...
(e) Cerebro-Spinal Fever, ...	...	...	...	...	...	...	1	1	...	3	2	2	1	...	4	1	15	...	...	...
VIII. Syphilis, ...	3	...	1	1	5	7	4	5	1	2	1	1	...	1	1	...	...	28	1·6	2
IX. Suffocation, ...	3	2	1	1	7	6	4	3	1	...	2	...	...	...	1	...	...	24	1·4	1·9
X. Other Violence, ...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	2	0·1	0·2
XI. All Other Causes, ...	2	...	2	1	5	6	2	2	2	1	1	3	3	1	1	3	...	30	1·7	2
	315	94	84	57	550	187	150	123	105	88	88	105	101	110	88	73	...	1,768	100·0	143

TABLE VIb.

Glasgow, 1906.—FEMALE Infant Deaths at Given Ages and from Several Causes.

CAUSE OF DEATH.	Age in Weeks.					Age in Months.											Totals.	Group Totals.	Group Percentages.	Death-rate per 1,000 Female Births.
	1st	2nd	3rd	4th	Total.	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th				
I. Immaturity, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	429	30·2	36
(*a*) Premature Birth, ...	123	22	10	11	166	16	2	...	1	1	...	...	...	1	...	...	187	...	...	...
(*b*) Congenital Malformations, ...	9	...	1	3	13	4	.	...	...	1	...	...	...	...	...	...	18	...	...	...
(*c*) Atelectasis, ...	8	1	1	1	11	1	...	...	1	...	...	...	...	...	...	...	13	...	...	...
(*d*) Atrophy and Debility, ...	69	16	18	12	115	31	24	9	6	8	5	5	4	...	4	...	211	...	...	...
II. Diseases of Respiratory Organs,	1	3	7	7	18	24	29	29	19	13	29	32	27	22	20	26	...	288	20·3	24
III. Diseases of Digestion, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	268	18·9	22
(*a*) Diarrhœal, ...	...	2	3	3	8	23	22	23	22	22	11	12	13	13	13	8	190	...	...	...
(*b*) Dentition, ...	...	...	...	...	...	...	1	...	2	1	3	4	2	3	1	5	22	...	...	...
(*c*) Others, ...	4	4	5	...	13	5	5	8	7	3	6	2	1	4	1	1	56	...	...	...
IV. Diseases of Nervous System, ...	8	3	2	...	13	16	21	6	9	9	14	9	12	8	16	10	...	143	10·1	12
V. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58	4·1	5
(*a*) Tabes Mesenterica, ...	...	...	...	...	...	...	...	...	1	1	.	...	...	...	...	...	2	...	...	...
(*b*) Tubercular Meningitis, ...	...	...	...	...	...	1	...	4	2	3	1	3	4	5	1	4	28	...	...	...
(*c*) Other Forms, ...	...	1	...	1	2	2	2	...	2	3	2	3	6	2	3	1	28	...	...	...
VI. Accidents of Birth, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	0·5	0·6
(*a*) Injury, ...	5	1	...	1	7	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...
(*b*) Umbilical Hæmorrhage, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VII. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	153	10·8	13
(*a*) Whooping-cough, ...	...	...	...	2	2	3	7	8	4	7	12	8	7	7	9	8	82	...	...	...
(*b*) Measles, ...	...	...	...	...	...	...	1	...	1	1	5	7	8	5	9	5	42	...	...	.
(*c*) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...
(*d*) Erysipelas, ...	...	...	3	...	3	2	...	...	1	...	1	...	...	1	...	...	8	...	...	...
(*e*) Cerebro-Spinal Fever, ...	...	...	...	1	1	1	...	3	2	2	4	3	2	1	...	1	20	...	...	...
VIII. Syphilis, ...	...	...	2	...	2	7	7	2	2	...	1	...	...	1	...	...	...	22	1·6	1·8
IX. Suffocation, ...	6	1	1	1	9	5	2	2	3	2	...	...	...	...	...	...	...	23	1·6	1·9
X. Other Violence, ...	1	2	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	4	0·3	0·3
XI. All Other Causes, ...	5	4	1	1	11	3	1	1	...	...	2	...	2	...	2	...	...	22	1·6	1·8
	239	60	54	44	397	144	125	95	85	77	96	88	88	74	79	69	...	1,417	100·0	118

It was necessary last year to direct attention to the rate of infantile mortality in Blythswood Ward. Again the rate is in excess, but the numbers are so small that more importance attaches to the actual causes of death than to the rates which represent them. Similar information is included for Sandyford Ward, which shows an increasing rate.

TABLE VIc.

GLASGOW, 1906.—SANDYFORD AND BLYTHSWOOD WARDS.—INFANTILE MORTALITY.—DETAILS OF DEATHS SHOWING LEGITIMATE AND ILLEGITIMATE SEPARATELY, WITH DEATH-RATE PER 1,000 BIRTHS FOR EACH CLASS.

	Scarlet Fever.	Measles.	Whooping-cough.	Diarrhœa.	Tuberculous Diseases.	Diseases of Nervous System.	Diseases of Circulatory System.	Croup.	Respiratory Diseases.	Immaturity.	Other Causes.	Death rate per 1,000 Births for each Class.
SANDYFORD.												
Legitimate Children,	1	1	2	11	10	2	2	1	15	13	28	159
Illegitimate Children,	...	...	...	1	1	2	...	...	...	2	7	213
BLYTHSWOOD.												
Legitimate Children,	...	...	...	..	...	...	...	...	2	3	...	208
Illegitimate Children,	...	...	...	1	...	...	...	...	...	...	...	167

In reviewing the work of the Committee on Infantile Mortality, it will be convenient to bring the record down to April, 1907, after which period several advances were made in directions which experience had shown to be desirable.

The main branches of this work were as follows:—

(1) The visitation of infants fed on the depot milk.
(2) The visitation of those whose births were intimated within forty-eight hours (chiefly by the Maternity Hospital), under the scheme for paying 1s. therefor.
(3) A special enquiry in Cowcaddens into all births occurring.
(4) The introduction of a system of weekly "consultations" and weighing of infants at Queen Margaret's Settlement, in Elliot Street, Anderston.

Enquiry in Cowcaddens.—On Dr. Smellie's appointment in the spring of 1906, it was arranged that, so far as consistent with a supervision of the work elsewhere, special attention should be directed to the births in the old sanitary division (District 16) of Cowcaddens Ward—viz., that portion lying mainly between Port-Dundas Road and Phœnix Park, but including the streets around Lyon Street and Burnside Street—because of the excessive infant death-rate which there obtained.

To give effect to this, the births registered in this area were extracted at the end of each week, and the houses visited early in the following one. Certain details of each birth were entered on a specially prepared card, and, when there was no medical attendant, the mother was advised mainly as to the necessity for making continuous effort to nurse her child at the breast. Revisits at intervals were in all cases made, and, when the circumstances seemed to demand it, these were frequently repeated. In all, 1,127 births in this district were thus dealt with, but a certain number could not be followed to a conclusion because of change of residence to an unknown address.

Of those remaining, 127 died, but of these deaths no fewer than 53 had already occurred before the birth was known to us.

In this enquiry the object was to ascertain the nature of the attendance at birth, the diet and habits of the mother and child, and, when death occurred, the cause thereof.

Towards the end of the period reviewed, a voluntary organisation, under the auspices of the British Women's Temperance Association, undertook to assist in the work, but the development of this auxiliary will be more properly dealt with in a subsequent Report.

Nature of Attendance at Birth.—In Table A, which follows, the nature of the attendance at birth is given. The point of interest here is that, of these births, 497, or 44 per cent., were not under any medical supervision. In a number of instances the attendant would, no doubt, have had some experience or training, but, whether this be the case or not, it remains obvious that the character of the training and the effort made by those who had been trained to keep themselves acquainted with modern methods of procedure cannot always remain in the neglected state which prevails in those districts where confinements are so largely attended by women:—

COWCADDENS.—TABLE A.

Nature of Attendance at Birth.	No.	Per cent.
Doctor, ...	243	21·6
Maternity Nurse, ...	56	4·9
Scotia Street School, ...	234	20·8
Dundas Street School, ...	57	5·1
Women, ...	497	44·1
Poorhouse, ...	9	0·8
Not visited, ...	16	1·4
Not found, ...	14	1·3
No attendant, ...	1	...
	1,127	100·0

Nature of Feeding.—A widespread impression, I think, prevails that the practice of breast-nursing is decreasing. During the enquiry in the winter of 1904, we found reason for questioning the accuracy of this impression, and again the evidence is of a similar character. Quite four-fifths of the mothers in Cowcaddens make effort, and for some time at least manage, to nurse their children in the natural manner, as will be seen from the following Table:—

NATURE OF FEEDING.

Total Births.	Breast Only.	Breast and—		Cow's Milk.	Other Artificial Food.	Not Found.	Not Visited.
		Cow's Milk.	Other Artificial Food.				
1,127	905	24	35	85	11	14	15

It is not suggested that these 80 per cent. were continuously breast-fed throughout the whole of the natural period of lactation. In some the breast supply failed—our earlier enquiry indeed drew attention to the relatively large number of babies who were not thriving on breast milk—in others, disease in the mother supervened, but the large proportion of children whose nutrition is obtained for a period at least from the natural source may help to guard against the assumption which is too widely spread, that the whole question of infant mortality is limited to the problem of persuading a mother to suckle her child. Indeed, the question, in a physiological and practical sense, is not infrequently that of nourishing the mother first and through her the child, and in the few cases where this was had recourse to the results were eminently satisfactory.

If the following Table B of the causes of death in 127 of these children is examined, it will be found that digestive diseases were only responsible for 17 per cent., while immaturity, which is essentially the result of maternal conditions, caused no fewer than 37 per cent.

It would be unsafe to press any conclusions from these proportions, owing to the limited numbers here dealt with, but there is a pretty close correspondence between them and those which in several Annual Reports for recent years have been shown to obtain over the whole range of infant mortality in Glasgow. (See Tables VIA. and VIB. and corresponding Tables in previous Reports.)

These warrant the statement that immaturity in its several forms causes fully 30 per cent. of the deaths of infants in Glasgow. At present this would appear to form an almost irreducible portion of infant mortality, but the formation of district classes for the instruction of mothers regarding the most suitable articles for her own diet and generally as to her own health while her child is yet unborn would seem to afford the opportunity at least of warding off some of the pre-natal conditions with which death from immaturity in the infant is associated.

This, I am hopeful, will be one fruitful part of the work begun by Dr. Smellie in connection with the University Settlement at Anderston, and now being rapidly extended in Cowcaddens by Dr. Gallagher, with the assistance of the British Women's Temperance Association.

Of the 127 deaths referred to, 52, or 41 per cent., occurred during the first month, and 25 occurred in the week following birth. Of these latter, it is most probable that little could have been done to prevent the result save probably by advice to the mother during pregnancy.

The next considerable source of mortality among infants arises from diseases of the respiratory organs, which form almost one-fifth of the total infant deaths.

To meet this cause of disease, too much stress cannot, I think, be laid on the importance of attaining to a much higher standard of air-purity in houses than is presently the case. While it is true that the sense of smell is probably the most delicate test of ventilation which we possess, it is equally true that it is a sense which is easily blunted, and it requires little experience in domestic visitation to convince anyone that, as applied to house ventilation, it is most commonly in abeyance. But insistence on the necessity of frequently ventilating rooms where there are young children, and more especially the rooms where they sleep, is a subject in which every district visitor may do something to supplement the instruction which should form part of the work of the mothers' classes.

With regard to diet, which plays an important part in all these diseases of digestion in children, the added information lends confirmation to the impression expressed in my Report for 1905 that the difficulty with lactation usually begins during the second month.

At present the staff of visitors is insufficient to follow up these births with the necessary frequency.

TABLE B.

AGE and CAUSE of DEATH in 127 Children born in Cowcaddens during the period, March, 1906, to March, 1907.

CAUSE OF DEATH.	Weeks.				Total.	Months.											Total.
	- 1	- 2	- 3	- 4		- 2	- 3	- 4	- 5	- 6	-7	- 8	- 9	- 10	- 11	- 12	
I. Immaturity, ...	20	6	3	2	31	9	4	1	2	...	...	...	...	...	...	...	47
II. Diseases of Respiration, ...	...	1	3	1	5	3	4	3	2	1	1	...	1	2	...	1	23
III. Diseases of Digestive System,	...	3	1	...	4	4	6	3	1	2	...	1	...	...	...	...	21
IV. Diseases of Nervous System,	2	1	3	...	6	2	1	...	1	1	...	1	...	...	...	...	12
V. Tubercular Diseases (excluding Phthisis), ...	...	...	...	...	...	1	1	...	1	...	2	1	...	...	1	...	7
VI. Accidents of Birth, ...	2	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	3
VII. Infectious Diseases, ...	1	...	...	...	1	..	1	2	...	...	...	2	2	...	...	1	9
VIII. Syphilis, ...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
IX. Suffocation, ...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
X. All other Causes, ...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	2
	25	12	12	3	52	21	18	9	7	4	3	5	3	2	1	2	127

INFANTS' MILK DEPOT.

The demand for milk prepared at the depot is shown in the following Statement:—

TABLE VII.

STATEMENT showing AVERAGE DAILY AMOUNT of MILK RECEIVED and AVERAGE NUMBER of BASKETS ISSUED during 1906.

MONTH.	Average daily number of gallons of milk received.	Average daily number of baskets issued by Depot.	Average daily number of baskets issued by Dairies.	Total baskets issued daily.	* Number of Baskets not sold returned from Dairies during Month.	* Number of baskets supplied free during Month.
January, ...	96	54	456	510	216	93
February, ...	101	52	425	477	193	84
March, ...	112	59	490	549	225	170
April, ...	113	57	454	511	264	239
May, ...	120	56	563	619	189	313
June, ...	135	62	631	693	253	342
July, ...	115	58	501	559	244	344
August, ...	126	56	575	631	354	126
September,	119	51	545	596	517	111
October, ...	117	49	548	597	421	158
November,	118	50	545	595	306	186
December,	118	51	553	604	327	174

* The figures in these two columns are monthly numbers, not averages.

Cost of Working.—From a statement prepared by the Treasurer, the outlay in connection with the working of the depot for the financial year ending 31st May, 1907, may be stated as £4,515 11s. 11d., while the revenue was £2,226 0s. 5d. In supplement to this, the following details are of some interest:—

TABLE VIII.

STATEMENT of Working Expenses at Infants' Milk Depot for the Year ending 31st December. 1906.

Income.				Expenditure.			
To Sale of Milk at Depot, ...	£216	0	10½	By Milk, ...	£2,010	13	3
,, Teats and Broken Bottles, ...	15	19	6	,, Bottles, less amount received for Broken Glass,...	340	16	3
,, Sale of Milk at Dairies, ...	2,071	19	7½	,, Alu Stoppers, ...	318	3	11
,, Teats and Broken Bottles, ...	30	15	1	,, Wire Baskets and Repairs to same,	72	18	4
,, Balance, ...	1,942	8	2	,, Teats, ...	66	11	4
				,, Sugar and Soda, ...	66	18	9
				,, Rubber Rings, ...	45	16	7
				,, Brushes and Lead Seals,... ...	25	2	6
				,, Aprons, Overalls, Clogs, Towels, &c.,	19	0	9
				,, Waste, Soap, Oil, CO_2, H_2SO_4, &c.,	21	19	4
				,, Printing and Stationery,... ...	39	10	3
				,, Hire of Vans and Horses, ...	209	15	0
				,, Fuel, ...	45	13	3
				,, Washing, Window Cleaning, ...	18	9	3
				,, Wages, ...	529	19	2
				,, Commission to Dairies on Sale of Milk,	310	12	3
				,, Repairs to Plant and Machinery,	65	15	10
				,, Water, Electricity, and Electric Lamps, ...	59	19	3
				,, Insurance of Boiler and Motors,...	3	18	0
				,, Telephone, ...	5	10	0
	£4,277	3	3		£4,277	3	3

Note.—No charge has been made for Rent, Taxes, and Depreciation of Plant and Machinery.

We were still during the year without facilities for ascertaining beforehand the reasons inducing a mother to place her child on depot milk, although during the currency of the present year (1907) an arrangement has been made by which this should be possible.

From the limited use of the milk, however, in some instances it would seem to have been used during a temporary disturbance of the child's health, under the impression probably that some medicinal value attached to it. Thus, of 31 children who were placed on the depot and withdrawn during the year, 6 were withdrawn in less than one week, 3 in less than two weeks, and 5 in less than 2 months, while 18, or more than half of the total, were withdrawn in less than three months.

TABLE IX.

CHILDREN who Joined Depot during 1906 but who Left before 31st December, showing Ages at Date of Entry and Period during which Milk supplied.

Age at Entry.	Duration.															
	Weeks.				Months.											Total.
	-1	-2	-3	-4	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	
Less than 1 Month, ...	1	...	...	...	4	1	1	2	1	...	...	2	...	...	...	12
,, 2 Months, ...	3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	5
,, 3 ,, ...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
,, 4 ,, ...	1	...	...	...	...	...	...	...	1	2	...	...	...	...	...	4
,, 5 ,, ...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2
,, 6 ,, ...	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	4
,, 7 ,, ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
,, 8 ,, ...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
,, 9 ,, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 10 ,, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 11 ,, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 12 ,, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	6	3	...	...	5	4	2	3	2	3	...	3	...	..	...	31

TABLE X.

NUMBER of CHILDREN leaving DEPOT during 1906, with Reasons for Leaving.

MUNICIPAL WARDS.	Milk does not agree.	Milk Sour.	Illness.	Weaned.	Unable to call or send.	Removed.	No reason assigned.	Died.	Transferred to Dairies.	Total
1. Dalmarnock, ...	...	...	...	...	...	...	...	...	...	...
2. Calton, ...	...	1	...	2	...	...	3	2	2	10
3. Mile-end, ...	...	...	...	..	...	...	1	...	...	1
4. Whitevale, ...	...	...	...		...	...	...	1	2	3
5. Dennistoun, ...	...	...	...	...	...	...	2	...	2	4
6. Springburn, ...	...	...	...	...	...	...	...	1	...	1
7. Cowlairs, ...	...	...	...	...	...	...	...	1	...	1
8. Townhead, ...	1	...	...	2	...	1	...	...	...	4
9. Blackfriars, ...	1	...	...	1	1	...	6	4	1	14
10. Exchange, ...	...	...	...	...	...	...	...	...	...	...
11. Blythswood, ...	...	...	...	...	...	...	...	...	...	...
12. Broomielaw, ...	...	...	...	...	...	...	...	...	...	...
13. Anderston, ...	...	...	...	...	...	...	...	...	...	..
14. Sandyford, ...	...	...	...	...	...	...	...	..	...	...
15. Park, ...	...	...	...	...	...	...	...	...	...	...
16. Cowcaddens, ...	...	...	...	...	...	...	...	...	1	1
17. Woodside, ...	...	...	...	...	...	...	...	...	...	...
18. Hutchesontown,	...	...	...	...	...	...	2	...	1	3
19. Gorbals, ...	...	...	1	...	...	...	1	...	5	7
20. Kingston, ...	...	...	...	...	...	...	...	1	...	1
21. Govanhill, ...	...	...	...	2	...	...	...	...	4	6
22. Langside, ..	...	...	...	1	...	...	1	...	...	2
23. Pollokshields. ...	...	...	...	...	...	...	...	...	...	...
24. Kelvinside, ...	...	...	...	...	...	...	...	...	...	...
25. Maryhill, ...	...	...	...	...	...	...	...	...	...	..
26. Kinning Park,	...	...	...	...	...	...	...	...	...	...
	2	1	1	8	1	1	16	10	18	58

The following Tables contain, for subsequent reference, the causes of death among children using depot milk, either alone or with other food. By far the larger number of children using the milk use it without other food.

Of 3,191 infants who died during the year, 204 were known to be using depot milk, either alone or along with some other food, and the causes of death in each of those groups were as follows:—

CAUSES OF DEATH.	Corporation Milk alone.	Corporation Milk along with other Food.
I. Immaturity, ...	14	21
II. Diseases of Respiration, ...	15	24
III. Diseases of Digestion, ...	51	37
IV. Diseases of Nervous System, ...	11	10
V. Tuberculous Diseases, ...	4	4
VI. Infectious Diseases, ...	3	3
VII. Suffocation, ...	2	...
VIII. Others, ...	2	3
All Causes, ...	102	102

Causes of Death among Infants fed on Corporation Milk alone, 1906.

Causes of Death.	Age in Weeks.					Age in Months.							Total.
	1	2	3	4	Total.	- 2	- 3	- 4	- 5	- 6	6 to 9	9 to 12	
I. Immaturity, ...	...	3	2	2	7	3	1	2	1	...	...	...	14
II. Diseases of Respiration, ...	...	...	...	...	...	2	...	2	...	2	3	6	15
III. Diseases of Digestion, ...	...	3	...	...	3	8	10	5	10	4	6	5	51
IV. Diseases of Nervous System,	...	1	...	...	1	3	...	...	...	2	2	3	11
V. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	1	1	1	1	4
VI. Infectious Diseases, ...	...	...	...	...	...	...	1	...	...	2	...	...	3
VII. Suffocation, ...	...	...	...	...	...	...	...	1	...	...	1	...	2
VIII. Others, ...	...	...	1	...	1	...	...	1	...	...	...	...	2
	...	7	3	2	12	16	12	11	12	11	13	15	102

Causes of Death among Infants fed on Corporation Milk along with other Food, 1906.

Causes of Death.	Age in Weeks.					Age in Months.							Total.
	1	2	3	4	Total.	- 2	- 3	- 4	- 5	- 6	6 to 9	9 to 12	
I. Immaturity, ...	...	...	3	1	4	6	1	1	3	2	4	...	21
II. Diseases of Respiration, ...	...	...	1	...	1	1	...	2	4	3	7	6	24
III. Diseases of Digestion, ...	...	...	2	...	2	5	4	6	2	4	5	9	37
IV. Diseases of Nervous System,	...	...	1	...	1	1	1	...	3	...	2	2	10
V. Tuberculous Diseases, ...	...	...	...	...	...	...	1	...	1	...	2	...	4
VI. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	2	1	3
VII. Suffocation, ...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII. Others, ...	...	...	...	...	...	...	...	...	...	1	2	...	3
	...	...	7	1	8	13	7	9	13	10	24	18	102

TABLE XI.

SUMMARY of OCCUPATIONS of FATHERS of INFANTS using DEPÔT MILK.

I.	National Government—	
	Custom-House Officers,	2
	Telephone Inspectors,	2
	Postmen,	2
II.	Local Government—	
	Police—Policemen,	2
	Municipal—	
	Sanitary Department,	1
	Cleansing do.,	2
	Lighting do.,	3
III.	Art, Music, &c.—	
	Artist,	1
	Musician,	1
	Pianist,	1
	Performers—Athlete,	1
	Showman,	1
IV.	Commercial—	
	Clerks,	10
	Travellers,	3
	Timekeeper,	1
	Insurance Agents,	2
	Collector,	1
V.	Conveyance on Railways—	
	Porters,	7
	Brakesman,	1
	Engine Driver,	1
	Stoker,	1
	Hoistman,	1
	Greasers,	2
	Signalmen,	2
	Checker,	1
	Clerks,	3
	Conveyance on Roads—	
	Carters,	22
	Motormen,	5
	Car Conductors,	7
	Cabmen,	4
	Vanmen,	3
	Conveyance on Seas—	
	Seamen,	12
	Firemen,	4
	Storage—Storemen,	6
VI.	Coal Mines—Miners,	11
VII.	Engineering and Machine Making—	
	Turners,	9
	Blacksmiths,	7
	Mechanics,	12
	Engineers,	18
	Polishers,	5
	Hammermen,	7
	Boilermakers,	11
	Tube Makers,	2
	Brass Finishers,	3
	Machinists,	4
	Packers,	7
	Fitters,	9
	Metal Trades—	
	Electric Wiremen,	2
	Coppersmith,	1
	Tinsmiths,	3
	Moulders,	12
	Steel Workers,	3
	Wire Worker,	1
	Galvaniser,	1
	Ships—	
	Rivetters,	8
	Holeborers,	3
	Platers,	3
	Cooks,	2
	Dealers—Ironmonger,	1
VIII.	Precious Metals—	
	Silver Polisher.	1
IX.	Housebuilding, &c.—	
	Plumbers,	4
	Plasterers,	5
	Joiners,	6
	Slaters,	4
	Painters,	12
	Masons,	11
	Bricklayer,	1
	Asphalter,	1
	Cranemen,	6
X.	Furniture, &c.—	
	Cabinetmakers,	3
	Mattress Maker,	1
	Wood and Bark—	
	Sawyers,	2
	Boxmakers,	2
	Cooper,	1
	Corkcutter,	1
XI.	Skin, Leather, &c.—	
	Curriers,	2
XII.	Pottery, Glass, &c.—	
	Earthenware Workers,	2
	Glass Workers,	3
	Tilelayer,	1
XIII.	Paper, Prints, and Books—	
	Bookbinder,	1
	Printers,	3
XIV.	Textile Fabrics—	
	Spinners,	3
	Twisters,	2
	Curtain Maker,	1
	Sailmaker,	1
	Dealers—	
	Drapers,	2
	Warehousemen,	3
XV.	Dress—	
	Barbers,	2
	Bootmakers,	9
	Hatter,	1
	Tailors,	4
	Umbrella Coverer,	1
XVI.	Food—	
	Bakers,	5
	Grocers,	4
	Fruiterer,	1
	Fishmonger,	1
	Butchers,	5
	Confectioner,	1
	Waiters,	6
	Tobacco—	
	Tobacco Workers,	3
	Cigarette Maker,	1
	Spirituous Drinks—	
	Brewery Workers.	2
	Barmen,	4
XVII	Chemicals, Oils, &c.—	
	Oil Pressmen,	2
XVIII.	General Shopkeepers—	
	Salesmen,	12
XIX.	Miscellaneous—	
	Church Officer,	1
	Missionary,	1
	Measurer,	1
	Hawkers,	5
	Foremen,	2
	Cattleman,	1
	Chimney Sweep,	1
	Labourers,	147

SECTION II.

INFECTIOUS DISEASES.

During the year 18,943 cases of infectious disease were registered and dealt with by the Department. This represents a rate equal to 24 per 1,000 of the population, which is 1 per 1,000 lower than in 1905. Of the total, 5,452, or 28·8 per cent., were treated in hospital. The varying rates of incidence in the several wards are shown in Table XIII., but it must be remembered that these only afford an accurate attack-rate for those diseases which are notifiable under the Infectious Disease (Notification) Act. On the other hand, for measles and whooping-cough, which are here grouped with phthisis and anthrax in the column "All others," the rates given indicate only the cases known and dealt with.

The composition of the rate is shown in the following Table for the past four years:—

Glasgow.—Case-rate PER MILLION of the Population for certain Zymotics and for all cases of Infectious Diseases registered, 1903-6.

Year	Typhus Fever.	Enteric Fever.	Continued and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Croup.	Cerebro-Spinal Fever.	All Others.	Total.
1903,	41	1,207	22	138	373	2,597	926	...	15,776	21,080
1904,	34	800	39	113	1,108	2,003	824	...	15,873	20,794
1905,	67	569	37	137	5	1,235	924	...	22,038	25,013
1906,	12	483	76	148	4	1,721	1,580	255	19,467	23,746

It will be observed that while the rate for all infectious diseases is 1,267 per million lower than that for 1905, and is also markedly lower for typhus and enteric fevers, there was an increase in the prevalence of scarlet fever and diphtheria. Detailed discussion of these will better be postponed, however, until the individual diseases are dealt with.

In the several wards the attack-rate was as follows:—

TABLE XII.

Glasgow, 1906.—CASE-RATE per Million for Certain Zymotics and for All Cases registered in each Municipal Ward.

MUNICIPAL WARDS.	Fevers.						Smallpox.	Diphtheria and Membranous Croup.	All other Causes.*	Total.
	Cerebro-Spinal.	Typhus.	Enteric.	Continued and Undefined.	Puerperal.	Scarlet.				
1. Dalmarnock, ...	320	...	460	60	240	1,460	...	2,241	19,264	24,045
2. Calton, ...	527	...	499	...	166	1,054	...	887	16,834	19,967
3. Mile-end, ...	851	22	784	112	179	940	...	1,254	22,095	26,237
4. Whitevale, ...	427	...	793	30	122	2,104	...	793	19,304	23,573
5. Dennistoun, ...	111	...	166	...	194	2,379	...	885	16,153	19,888
6. Springburn, ...	462	46	693	...	92	1,802	...	2,681	19,365	25,141
7. Cowlairs, ...	160	32	321	...	128	2,663	...	2,278	30,832	36,414
8. Townhead, ...	392	...	366	...	105	1,150	...	1,281	17,015	20,309
9. Blackfriars, ...	413	...	275	...	...	1,100	46	1,146	12,468	15,448
10. Exchange, ...	...	...	...	...	...	962	...	962	16,835	18,759
11. Blythswood, ...	...	...	305	...	...	610	...	1,220	5,490	7,625
12. Broomielaw, ...	132	...	1,323	132	132	1,323	...	1,323	19,586	23,951
13. Anderston, ...	104	...	382	...	139	1,320	...	2,154	22,821	26,920
14. Sandyford, ...	80	...	639	...	160	719	...	2,278	10,749	14,625
15. Park, ...	40	...	402	40	...	1,327	...	1,528	7,319	10,656
16. Cowcaddens, ...	110	55	549	...	302	823	...	1,152	34,176	37,167
17. Woodside, ...	138	23	575	...	138	1,634	...	1,082	26,534	30,124
18. Hutchesontown, ...	175	75	601	25	275	2,229	...	2,079	24,743	30,202
19. Gorbals, ...	84	...	418	28	139	1,812	...	1,589	13,658	17,728
20. Kingston, ...	320	...	378	...	203	1,453	...	930	15,378	18,662
21. Govanhill, ...	206	...	177	...	88	2,913	...	2,678	27,394	33,456
22. Langside, ...	26	...	206	...	103	2,551	...	902	14,561	18,349
23. Pollokshields, ...	56	...	450	...	...	2,139	...	1,070	7,992	11,707
24. Kelvinside, ...	...	...	275	...	...	1,147	...	1,331	6,243	8,996
25. Maryhill, ...	201	...	301	25	276	3,138	...	1,632	28,444	34,017
26. Kinning Park,...	...	...	148	...	74	590	...	1,550	9,002	11,364
CITY, ...	255	12	483	76	148	1,721	4	1,580	19,467	23,746

* Erysipelas, Measles, Whooping-cough, Chickenpox, Phthisis, and Anthrax.

Note.—The populations on which these rates are based include Institutions and Shipping.

If reference be made to Table V., Appendix B, the number of cases occurring and of those removed to hospital in each ward will be found, and Table VI. gives the seasonal distribution throughout the year.

INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.

The cost per 1,000 of the population for Notification Fees since 1891 is as follows:—

Glasgow.—Amount per 1,000 of Population of Fees for Certificates under the Infectious Disease (Notification) Act, 1889, for each year from 1891.

Year.	Amount.		
	£	s.	d.
1891,	1	1	10·4
1892,	1	6	1·2
1893,	1	6	9·2
1894,	1	4	8·7
1895,	1	1	5·0
1896,	0	18	0·1
1897,	0	18	0·1
1898,	1	0	9·0
1899,	1	3	10·0
1900,	1	2	1·0
1901,	1	4	5·9
1902,	0	16	7·4
1903,	0	14	0·5
1904,	0	13	4·2
1905,	0	9	2·6
1906,	0	12	7·3

In order to show the monthly variation in the numbers of notifications received, and the proportion which "public" and "private" cases form in the totals, the following Table is inserted:—

Monthly Number of Notifications Received.

1906.	Private.	Public.	£	s.	d.
January,	270	47	36	2	0
February,	269	46	35	18	6
March,	256	29	33	9	0
April,	252	40	33	10	0
May,	271	30	35	7	6
June,	256	34	33	14	0
July,	218	22	28	7	0
August,	333	37	43	9	6
September,	401	48	52	10	6
October,	507	57	66	4	6
November,	403	35	52	2	6
December,	430	39	55	14	0
	3,866	464	506	9	0
1905,	2,739	389	361	16	6

PRINCIPAL INFECTIOUS OR EPIDEMIC DISEASES.

The number of deaths arising from the principal zymotic diseases—smallpox, diphtheria, scarlet fever, typhus, enteric, and undefined fevers, cerebro-spinal fever, measles, whooping-cough, and diarrhœa—in 1906 was 1,957, representing an annual death-rate of 2·436 per 1,000 living, as compared with 2·500 in 1905.

The corresponding rates for several periods were—

1881-90, ...	3·600 per 1,000 living.
1891-1900, ...	3·282 ,,
1900, ...	3·013 ,,
1901, ...	3·773 ,,
1902, ...	2·072 ,,
1903, ...	2·507 ,,
1904, ...	2·450 ,,
1905, ...	2·500 ,,
1906, ...	2·436 ,,

In the following Table the corresponding rates for several towns are given:—

Principal Zymotic Diseases.*

	Death-rate per 100,000. 1896-1905.	1906.
Glasgow, ...	**278**	**159**
Edinburgh, ...	208	90
Dundee, ...	207	128
Aberdeen, ...	200	115
London, ...	233	193
Liverpool,...	335	362
Manchester, ...	306	309
Birmingham, ...	292	278

* See note under Births, p. 20.

In comparing these figures it is to be noted that the Registrar-General for England includes smallpox, measles, scarlet fever, diphtheria, whooping-cough, "fever," and diarrhœa; whereas the Registrar-General for Scotland omits diarrhœa from his group, but adds influenza.

In Table XIV. the number of deaths and the death-rate from diseases of this class are stated for each of the wards, and the following summary will show the constitution of the zymotic death-rate in those wards in which the combined rate much exceeds the mean rate for the whole City:—

ZYMOTIC DEATH-RATE per MILLION in certain WARDS whose RATES EXCEED the MEAN RATE of the whole City.

MUNICIPAL WARDS.	Total Zymotics.	Smallpox.	Diphtheria.	Scarlet.	Typhus.	Enteric.	Undefined.	Cerebro-Spinal Fever.	Measles.	Whooping-cough.	Diarrhœa.	Total of Last Three Columns.
Mile-end, -	4,007	...	179	22	22	157	...	649	649	784	1,545	2,978
Cowcaddens, -	3,812	...	192	...	...	82	...	82	1,317	1,152	987	3,456
Broomielaw, -	3,705	...	...	...	...	387	...	...	1,323	265	1,720	3,308
Dalmarnock, -	3,440	...	320	140	...	180	...	220	480	580	1,520	2,580
Hutcheson-town, -	3,330	...	351	50	...	200	...	125	902	851	851	2,604
Whitevale, -	3,261	...	30	213	...	91	...	366	457	732	1,372	2,561
Calton, - -	3,023	...	83	55	...	139	...	361	527	444	1,414	2,385
Springburn, -	2,613	...	324	46	...	116	...	370	601	185	971	1,757
Blackfriars, -	2,568	...	46	92	...	46	...	367	321	550	1,146	2,017
Anderston, -	2,918	...	208	...	...	35	...	35	486	799	1,355	2,640
Kingston, -	2,527	...	116	29	...	58	...	203	610	465	1,046	2,121
Maryhill, -	2,460	...	226	201	25	50	...	126	351	577	904	1,832
CITY, -	2,436	...	169	62	2	102	...	178	492	498	933	1,923

NOTE.—The very large proportion of this rate, which is contributed by Measles, Whooping-cough, and Diarrhœa, will be found by comparing the rate for the diseases shown in the last column with the total Zymotic rate given in the first column.

TABLE XIII.

Glasgow, 1906.—PRINCIPAL Zymotic Diseases.—Deaths and Death-Rates in the Several Wards, with Corresponding Rates for 1903-5.

Municipal Wards.	Death-rate per Million.			1906	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	3,873	3,316	4,028	172	3,440
2. Calton, ...	4,132	3,529	3,171	109	3,023
3. Mile-end, ...	4,031	3,381	3,580	179	4,007
4. Whitevale, ...	2,694	2,932	3,041	107	3,261
5. Dennistoun, ...	1,876	1,752	1,133	49	1,355
6. Springburn, ...	2,248	3,571	3,303	113	2,613
7. Cowlairs, ...	2,149	2,802	2,166	74	2,373
8. Townhead, ...	2,626	1,931	2,394	90	2,351
9. Blackfriars, ...	2,859	2,667	2,892	56	2,568
10. Exchange, ...	896	894	945	2	962
11. Blythswood, ...	1,112	1,435	901	1	305
12. Broomielaw, ...	4,558	3,090	3,753	28	3,705
13. Anderston, ...	2,275	3,534	3,651	84	2,918
14. Sandyford, ...	2,227	2,351	3,000	52	2,079
15. Park, ...	842	674	520	23	925
16. Cowcaddens, ...	3,929	3,325	2,891	139	3,812
17. Woodside, ...	2,103	2,064	1,560	95	2,186
18. Hutchesontown, ...	2,716	3,690	3,606	133	3,330
19. Gorbals, ...	2,244	1,723	2,050	76	2,119
20. Kingston, ...	2,647	2,231	2,431	87	2,527
21. Govanhill, ...	1,865	1,977	2,341	75	2,206
22. Langside, ...	979	735	500	21	542
23. Pollokshields, ...	707	282	448	6	337
24. Kelvinside, ...	371	654	580	3	138
25. Maryhill, ...	1,622	1,890	2,489	98	2,460
26. Kinning Park, ...	...	...	...	33	2,436
— Institutions and Harbour, ...	...	...	...	52	...
CITY, ...	2,507	2,450	2,500	1,957	2,436

SMALLPOX.

Three cases of smallpox were registered during the year. All were removed to hospital and recovered.

The mortality from smallpox for several periods in Glasgow and other towns in England and Scotland is shown in the following Table:—

Smallpox.*

	Death-rate per 100,000. 1896-1905.	1906.
Glasgow,	**5·2**	—
Edinburgh,	—	—
Dundee,	—	—
Aberdeen,	0·1	—
Paisley,	0·5	—
Greenock,	4·2	—
London,	3·4	—
Liverpool,	2·6	—
Manchester,	0·7	—
Birmingham,	0·3	—

* See footnote, p. 20.

The circumstances under which the cases occurred were reported to the Committee on Health at the time of occurrence, and are described in the transcripts from the minutes of the Corporation, which are appended:—

(*Extract from Minute No.* 21, *of date* 11*th April*, 1906.)

SMALLPOX AND ALIEN EMIGRANTS.

On the evening of 26th March a Russian Jew was admitted to hospital suffering from smallpox. He had arrived from Russia, *via* Rotterdam and Grangemouth, on March 22nd, and, with four others, had been accommodated in one of the hotels in the city. On the evening of his admission to hospital he had visited the shop of a fellow-countryman, who, observing an eruption on his face, took him to another hotel which is also used by emigrants, and at once communicated with the medical officer of the shipping company concerned. In this latter hotel the patient was detained in a room by himself; but in the hotel where he lived he had occupied two rooms in succession, and only his lack of English appears to have prevented him mixing with the other inmates. In all, between four and five hundred persons were here accommodated, a small number of whom were foreigners, and, like the patient, awaiting their despatch to America.

The incident has some bearing on the conditions under which the emigrant traffic is being conducted. Every week at present a considerable number of emigrants are brought to Glasgow by shipping companies engaged in this traffic, and detained for a longer or shorter period *en route* to America. During their stay they are housed in several places, some of which are used entirely for the purpose; but there are, besides, thirteen private houses registered as lodging-houses, and accommodating the overflow from the hotels as occasion requires. This custom would seem to require alteration.

The Aliens Act, 1905, holds the shipping companies responsible for the completion of transit of such persons as they have introduced into this country; but while in Glasgow, as our smallpox patient illustrates, infection may have reached a considerable section of the resident population before its presence is recognised. It would seem desirable, so long as this traffic continues, that these emigrants should be housed by themselves and regularly inspected, so that the public may have a reasonable degree of protection against imported disease. It is worthy of note also that there is no medical inspection of emigrants, although the interpreters employed are expected to intimate at once any case of sickness coming under their notice. In the present case this system failed to detect the illness in question, and in any case it is quite inadequate to meet the requirements of infectious disease. In connection with the case, seventy revaccinations of emigrants and staff were performed.

(*Extract from Minute No.* 23, *of date* 25*th April*, 1906.)

The risk arising from the present method of housing alien emigrants, referred to in my last Report, has had an unfortunate illustration during the present fortnight. On Friday, 13th instant, an habitué of the hotel in which the emigrant was housed was discovered to be ill of smallpox. He sickened on 10th instant, and consulted a medical man, to whom, however, he afforded no indication that he had been exposed to infection, so that the character of his symptoms remained unsuspected until the rash appeared.

When the emigrant was removed to hospital we had been informed that he had conversed with no one because of linguistic difficulties, but, on the recognition of the present case, patient informed us that he had been in the habit of taking advantage of every opportunity which offered to practise colloquial Russian with the first patient. He was thus led to form an intimacy, which ended in his contracting the disease.

In the three days during which the present patient was sick he remained in the hotel, and was mostly confined to bed. He was visited in his room by several of the other inmates, and the close association of these men made it a matter of importance to obtain their isolation. Some difficulty, however, was experienced in inducing them to comply with the suggestions made, and a warrant, under the Public Health Act, had to be obtained for the purpose. The patient's room was on the same floor as the second one occupied by the emigrant.

It is of importance to note that, of the 311 foreign emigrants housed last week by the shipping companies prior to the departure of their vessels, 63 were lodged in eight lodging-houses and one hotel, in which also non-emigrants were accommodated.

(Extract from Minute No. 25, of date 9th May, 1906.)

On the afternoon of Friday, 27th April, a police constable in the Central Division was sent to the Sanitary Office by the instructions of the Police Surgeon to be examined owing to the presence of a rash on his face and hands. It was seen to be due to smallpox, and he was sent to hospital. He sickened on the 20th April, attended the Police Surgeon between 23rd and 27th, the rash appearing on the 24th. During this time he was in daily intercourse with the constables in the Central Division Barracks, and attended one meeting of a police ambulance class. He also attended the police football match on 26th April—the day preceding his recognition here; visited a private house in Renfrewshire; and was, of course, mingling with those who were attending the Police Surgeon at the same time as himself. Save the contacts at the football match, those known to have been associated with him in one or other of the groups above mentioned number 191, comprising 92 in the barracks, 51 in the ambulance class, and 48 in the consulting rooms. He was not on duty from the period of his sickening until his removal to hospital.

The source of the constable's infection is unknown. An attack beginning on the 20th April is consistent with exposure to infection between the 3rd and 11th, but most probably on the 7th or 8th of the month. At that period it is not known that there was any one ill of the disease in Glasgow save the Russian emigrant, who was in hospital. A few days afterwards the second patient in the hotel sickened, but the constable had no association with that district of the city, and his illness is barely within the time-limit of infection from him. He cannot, therefore, be regarded as related directly with either of the previous cases. He attended the International Football Match, which was held on 7th April. At this, I believe, there were persons from the Northern Midlands, and smallpox is, I understand, present in some of the Lancashire and Yorkshire towns. This, or the occurrence of a case coincident with our second recognised case, but outside the hotel population and unknown, would explain the infection.

In consequence of the foregoing circumstances, and after consulting with the chairman, the following circular was addressed to medical practitioners :—

"Sanitary Chambers,
"Glasgow, 24th April, 1906.

"SMALLPOX.

"Three cases of smallpox have occurred as the result of infection introduced by emigrants. The most recent is that of a policeman, and his illness is not directly associated with either of the other two. It is obviously due to an unrecognised case not in hospital, but at large among the population.

"In these circumstances the Committee on Health desire me to draw your attention thereto, more particularly as, in this last case, the disease is mild in type and might readily have escaped recognition unless examined with a knowledge of the facts just related.

Yours faithfully,

A. K. CHALMERS,
Medical Officer of Health."

(*Extract from Minute No. 18, of date 14th March, 1906.*)

In last fortnight's report I had occasion to note the occurrence of smallpox on board two eastern-coming ships, and, in connection therewith, to refer to the reported prevalence of smallpox on the Bombay coast. A subsequent arrival—the s.s. "City of York," of which I had advance information from the Medical Officer of the Port of London—presents another phase of the question, and points to the need for shipping companies making some preparations for the risks attending shipping of seamen at these ports.

The above-named vessel arrived in London from Calcutta on 12th February, having landed a case of smallpox at Colombo on 18th January. The patient had sickened four days after leaving Calcutta, and two before arriving at Colombo; but it was not until a supply of lymph had been obtained at the latter port that revaccination, I understand, was carried out.

While this risk of infection to members of a crew continues, prudence most obviously suggests that such ships should carry a supply of lymph for immediate use on board should occasion arise; and this has led me to write to the agents in Glasgow of the various companies trading with eastern ports as to the desirability thereof.

HOUSING OF ALIEN EMIGRANTS.

In the foregoing extracts reference has been made to the practice of the shipping companies in housing the overflow of their alien emigrant traffic in houses occupied also by others who may belong to the resident population.

The bulk of the emigrants are already housed separately from other sections of the population, and there would seem to be no reasonable obstacle to extending this practice to all emigrants. The following Table contains a summary of the numbers housed during several months of the year:—

Glasgow, 1906.—Housing of Alien Transmigrants by Shipping Companies during their Stay in Glasgow.

Months.	Lodging-houses.				Hotels.				Direct to Ship.	Total Alien Emigrants.
	Emigrants and Home Population.		Emigrants only.		Emigrants and Home Population.		Emigrants only.			
	Number of Lodging-houses.	Number of Emigrants.	Number of Lodging-houses.	Number of Emigrants.	Number of Hotels.	Number of Emigrants.	Number of Hotels.	Number of Emigrants.		
May,	35	346	22	631	9	219	5	489	103	1,788
June,	14	63	33	655	8	213	5	620	164	1,715
July,	6	41	19	223	4	56	4	450	40	810
August,	9	52	19	248	5	62	5	398	42	802
September,	15	77	30	457	6	124	5	678	130	1,466
October,	13	63	17	252	6	81	4	484	86	966
November,	9	48	22	283	5	86	4	428	46	891
December,	11	117	34	576	7	95	4	522	216	1,526
		807		3,325		936		4,069	827	9,964

VACCINATION.

The following statement shows the number of vaccinations and re-vaccinations performed by the officers of the department, and otherwise at the cost of the Corporation, during the year 1906:—

	Primary.	Re-vaccinations.
At Office and Hospitals, ...	422	143
At Residence, by Staff, ...	—	253
In Prisons,	—	896
In Lodging-houses, &c., ...	—	83
	422	1,375

COST.

1. Vaccinations at Prisons,	£44 16 0
2. Cost of Lymph, ...	44 15 0
	£89 11 0

PRIMARY VACCINATION.

Table XVI. has been compiled from the figures contained in the Registrar-General's supplement for 1906, and gives particulars as to the vaccination of all children born in Glasgow during 1905. For comparison the figures for several preceding years are introduced.

TABLE XIV.

Glasgow.—PRIMARY Vaccination during 1905—Compiled from the 52nd Annual Report of the Registrar-General.

Registration Districts.	Successfully Vaccinated.		Vaccination Postponed.		Insusceptible of Vaccination.		Died before Vaccination.		Removed from District, or otherwise Unaccounted for.		No. of Children Born.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	
1. Maryhill, ...	1,575	83·2	107	5·6	13	0·7	159	8·4	40	2·1	1,894
2. Shettleston, ...	...	...	...	...	...	...	...	...	...	...	...
3. Bridgeton, ...	1,798	86·6	9	0·4	23	1·1	189	9·1	58	2·8	2,077
4. Camlachie, ...	1,778	86·7	10	0·5	9	0·4	181	8·8	73	3·6	2,051
5. Dennistoun, ...	2,691	85·5	39	1·2	21	0·7	297	9·4	102	3·2	3,150
6. Calton, ...	916	82·8	11	1·0	4	0·4	129	11·7	46	4·1	1,106
7. Blackfriars, ...	980	71·9	16	1·2	5	0·4	243	17·8	119	8·7	1,363
8. St. Rollox, ...	1,564	86·4	16	0·9	13	0·7	176	9·7	42	2·3	1,811
9. Blythswood, ...	345	81·2	6	1·4	2	0·5	50	11·7	22	5·2	425
10. Milton, ...	1,168	79·7	7	0·5	8	0·6	204	13·9	78	5·3	1,465
11. Kelvin, ...	1,288	87·9	17	1·2	14	0·9	116	7·9	30	2·1	1,465
12. Anderston, ...	1,100	82·3	16	1·2	8	0·6	174	13·0	39	2·9	1,337
13. Hutchesontown,	2,204	84·8	25	0·9	15	0·6	239	9·2	117	4·5	2,600
14. Gorbals, ...	1,184	86·0	12	0·9	10	0·7	135	9·8	36	2·6	1,377
15. Tradeston, ...	721	87·4	7	0·9	3	0·4	73	8·8	21	2·5	825
16. Kinning Park, ...	389	86·5	7	1·6	2	0·4	33	7·3	19	4·2	450
17. Plantation, ...	4	66·7	...	...	...	...	...	...	2	33·3	6
18. Govan, ...	24	85·7	...	...	1	3·6	3	10·7	...	...	28
19. Partick,... ...	219	89·7	5	2·1	...	...	12	4·9	8	3·3	244
20. Rutherglen, ...	1	100·0	...	...	...	...	...	...	...	...	1
21. Cathcart, ...	505	92·5	8	1·5	6	1·1	18	3·3	9	1·6	546
22. Eastwood, ...	89	94·7	2	2·1	...	...	2	2·1	1	1·1	94
CITY, ...	20,543	84·5	320	1·3	157	0·6	2,433	10·0	862	3·6	24,315
1902, ...	...	84·2	...	0·8	...	0·9	...	10·6	...	3·5	24,720
1903, ...	...	84·6	...	0·7	...	0·6	...	10·8	...	3·3	25,142
1904, ...	...	83·4	...	1·2	...	0·7	...	11·0	...	3·7	24,751

DIPHTHERIA.

The cases of diphtheria registered during the year numbered 1,270, compared with 726 in 1905, and the number of deaths registered was 136, compared with 107 in 1905. These figures for 1906 represent an attack-rate of 1,580 per million living, and a death-rate of 169, compared with 924 and 136, which were the corresponding rates for 1905. The morbidity-rate (that is, the death-rate per 100 cases) fell, however, to 10·7, as compared with 14·7.

For several periods the death-rate for diphtheria in Glasgow has been:—

1881-90,	·280 per 1,000 living.
1891-1900,	·231 ,,
1900,	·165 ,,
1901,	·151 ,,
1902,	·135 ,,
1903,	·132 ,,
1904,	·116 ,,
1905,	·136 ,,
1906,	·169 ,,

Compared with several other towns during the ten years 1896-1905 and 1906, the death-rate per 100,000 is as follows:—

	1896-1905.	1906.
Glasgow,	**14**	**18**
Edinburgh,	18	15
Dundee,	14	24
Aberdeen,	13	11
Paisley,	13	16
Greenock,	20	13
London,	33	15
Liverpool,	26	20
Manchester,	17	19
Birmingham,	26	18

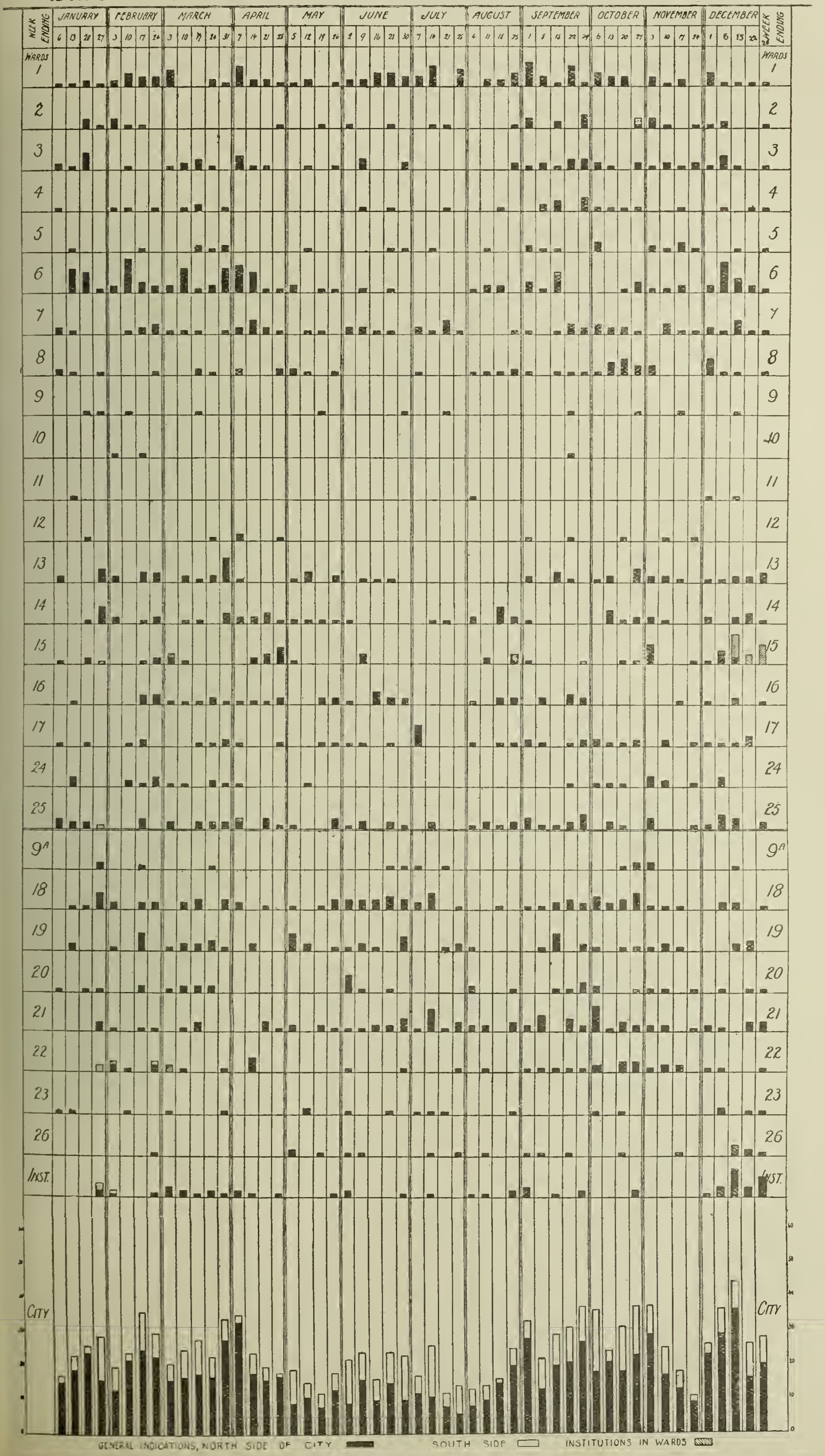
The increased prevalence of the disease, which began in the closing months of 1905, continued throughout 1906, and Ward charts, which are here reproduced, were prepared to indicate the weekly prevalence by columns. It is proposed to review the whole period of the outbreak in a special Report, but meantime some general indications of its distribution may be gained from a review of the two charts which follow, and which bring the record down to July, 1907, when the number of cases occurring show a tendency toward diminution.

Its distribution can scarcely be said to have had any definite localisation even at the beginning, for already, in January, 1906, Dalmarnock, Springburn, and Maryhill had a weekly succession of cases, which in Dalmarnock continued throughout the year, although the attack-rate was greatest in Springburn, and next in Govanhill, which only began to display a sustained incidence of cases in April.

But along with the greater prevalence of cases there was a lessened severity of attack, and the case-mortality was only 10·7 per cent., compared with 14·7 in 1905, and an average of 17·8 in the preceding five years.

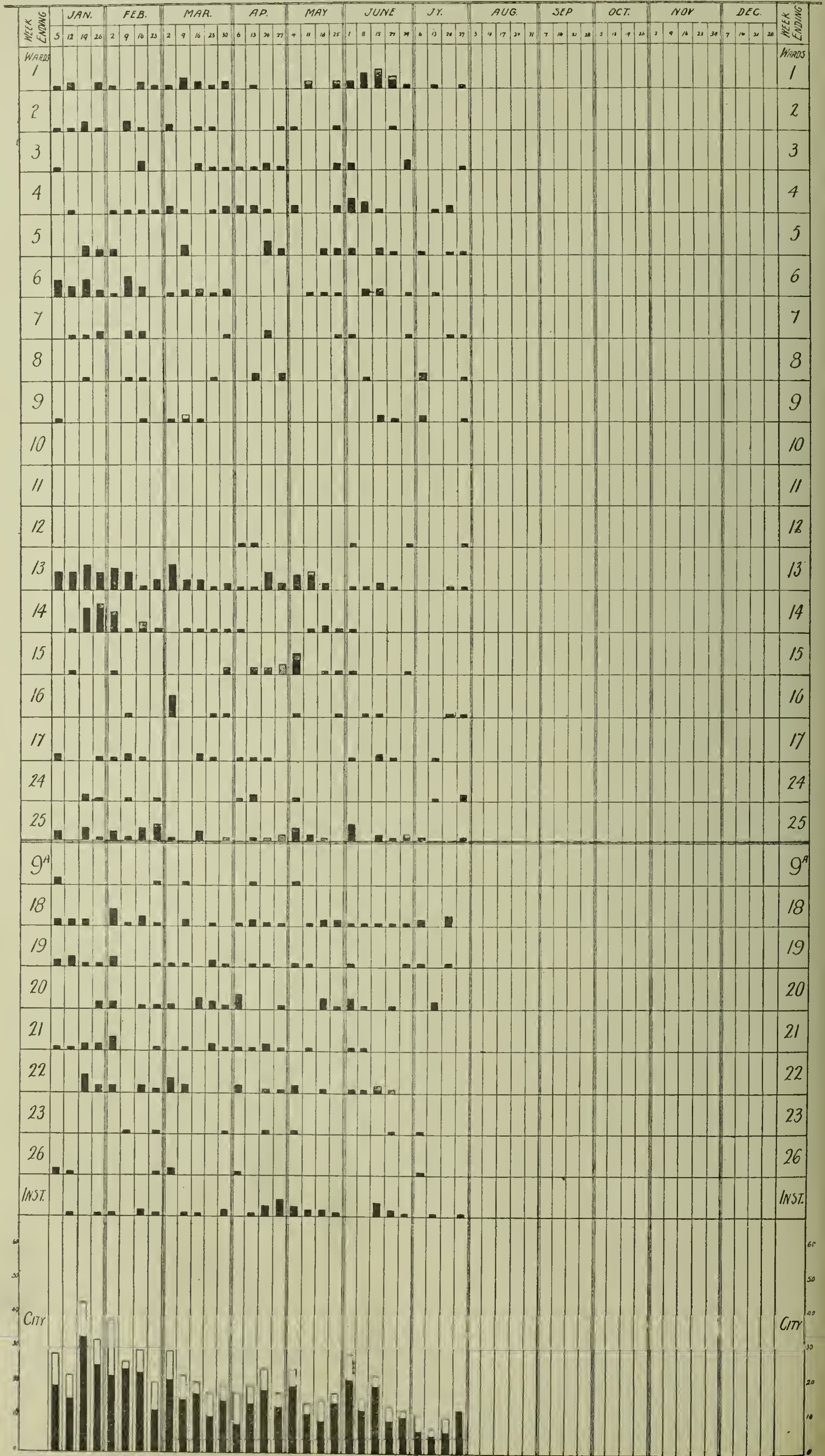
1906

GLASGOW_ THE MEDICAL OFFICER'S WEEKLY RETURN OF DIPHTHERIA and Memb. Croup REGISTERED IN HOSPITAL AND AT HOME.



GLASGOW 1907

THE MEDICAL OFFICER'S WEEKLY RETURN OF DIPHTHERIA AND MEMB. CROUP, REGD. IN HOSPITAL AND AT HOME.



GENERAL INDICATIONS NORTH SIDE OF CITY ■ SOUTH SIDE ▭ INSTITUTIONS IN WARDS ▨

The lessened severity of the attack of the disease is shown in the following Table, giving the number of cases and deaths, with the rate for each and the case-fatality per cent.:—

TABLE XV.

DIPHTHERIA and Membranous Croup.

Year.	Cases.			Deaths.			Case-mortality per cent.
	Number.	Rate per Million.	Per Cent. treated in Hospital.	Number.	Rate per Million.	Per Cent. occurring in Hospital.	
1886-90	...	...	...	...	466	...	...
1891	465	822	16·1	131	232	23·7	28·2
1892	575	861	14·1	195	292	15·9	33·9
1893	828	1,228	19·0	246	365	25·6	29·7
1894	967	1,414	26·1	290	424	30·0	30·0
1895	654	944	28·4	137	198	19·0	21·0
1896	601	854	31·6	116	165	30·2	19·3
1897	462	647	32·9	127	178	30·7	27·5
1898	433	592	59·6	113	154	47·8	26·0
1899	465	622	52·3	109	146	31·2	23·5
1900	540	715	59·4	125	165	44·0	23·1
1901	563	739	57·2	115	151	44·4	20·4
1902	617	794	60·1	105	135	61·9	17·0
1903	724	926	71·1	103	132	68·9	14·3
1904	647	824	69·9	91	116	57·1	14·1
1905	726	924	80·0	107	136	75·7	14·7
1906	1,270	1,580	86·5	136	169	83·1	10·7

In Table XVI. the cases and deaths occurring in each ward during 1906, together with the corresponding rates, are shown, and for comparison the death-rates for 1903-5 are included. In Table XVII. the wards are arranged in the order, of their rate of attack, and with this is compared the rate of fatal attack on the numbers occurring. That the two do not always coincide was suggested in the Tables submitted last year, but continued observation will be necessary to discover the explanation.

TABLE XVI.

Glasgow, 1906.—DIPHTHERIA and Membranous Croup.—Cases and Case-rates and Deaths and Death-rates in each Municipal Ward, with corresponding Death-rates for 1903-5.

Municipal Wards.	Death-rates per Million.			1906.			
	1903.	1904.	1905.	Cases.	Case-rate per Million.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	157	118	162	112	2,241	16	320
2. Calton, ...	128	158	108	32	887	3	83
3. Mile-end, ...	139	69	185	56	1,254	8	179
4. Whitevale, ...	148	60	152	26	793	1	30
5. Dennistoun, ...	154	88	85	32	885	...	...
6. Springburn, ...	97	142	119	116	2,681	14	324
7. Cowlairs, ...	235	132	162	71	2,278	6	192
8. Townhead, ...	75	76	129	49	1,281	3	78
9. Blackfriars, ...	87	...	90	25	1,146	1	46
10. Exchange, ...	...	...	...	2	962	...	...
11. Blythswood, ...	...	...	...	4	1,220	...	...
12. Broomielaw, ...	120	124	129	10	1,323	...	...
13. Anderston, ..	102	240	338	62	2,154	6	208
14. Sandyford, ...	113	154	195	57	2,278	10	400
15. Park,...	80	...	40	38	1,528	3	121
16. Cowcaddens, ..	225	236	80	42	1,152	7	192
17. Woodside,... ...	131	155	90	47	1,082	4	92
18. Hutchesontown, ...	119	121	222	83	2,079	14	351
19. Gorbals, ...	137	109	166	57	1,589	9	251
20. Kingston,... ...	115	114	231	32	930	4	116
21. Govanhill,... ...	148	59	30	91	2,678	11	324
22. Langside, ...	135	184	83	35	902	2	52
23. Pollokshields, ...	...	56	56	19	1,070	...	...
24. Kelvinside, ...	106	50	48	29	1,331	...	...
25. Maryhill, ...	165	186	231	65	1,632	9	226
26. Kinning Park, ...	...	...	...	21	1,550	4	295
— Institutions and Harbour, ...	...	...	...	57	...	1	...
CITY, ...	132	116	136	1,270	1,580	136	169

TABLE XVII.

GLASGOW, 1906.—DIPHTHERIA and MEMBRANOUS CROUP.—CASE-MORTALITY compared with ATTACK-RATE in each WARD.

MUNICIPAL WARDS.	Number of Deaths.	Attack-rate per Million.	Case-mortality Rate.
6. Springburn, ...	14	2,681	12·0
21. Govanhill, ...	11	2,678	12·0
14. Sandyford, ...	10	2,278	17·0
7. Cowlairs, ...	6	2,278	8·4
1. Dalmarnock, ...	16	2,241	14·2
13. Anderston, ...	6	2,154	9·6
18. Hutchesontown, ...	14	2,079	16·9
25. Maryhill, ...	9	1,632	13·8
19. Gorbals, ...	9	1,589	15·7
26. Kinning Park, ...	4	1,550	19·0
15. Park, ...	3	1,528	7·8
24. Kelvinside,...	...	1,331	...
12. Broomielaw, ...	...	1,323	...
8. Townhead, ...	3	1,281	6·1
3. Mile-end, ...	8	1,254	14·2
11. Blythswood, ...	...	1,220	...
16. Cowcaddens, ...	7	1,152	16·6
9. Blackfriars, ...	1	1,146	4·0
17. Woodside, ...	4	1,082	8·5
23. Pollokshields, ...	...	1,070	...
10. Exchange, ...	...	962	...
20. Kingston, ...	4	930	12·5
22. Langside, ...	2	902	5·7
2. Calton, ...	3	887	9·3
5. Dennistoun, ...	...	885	...
4. Whitevale,...	1	793	3·8
— Institutions and Harbour, ...	1	...	...
CITY, ...	136	1 580	10·7

TABLE XVIII.

Glasgow.—DIPHTHERIA and Membranous Croup.—Number of Cases Registered and Annual Case-rate per 100,000 Living for each Month for the Periods 1890-1900, 1901-1905, and 1906.

Month.	Cases.			Annual Case-rate.		
	1890-1900.	1901-05.	1906.	1890-1900.	1901-05.	1906.
January, ...	652	310	103	103	94	154
February, ...	611	247	112	108	82	167
March, ...	586	271	120	93	82	179
April, ...	461	235	103	75	73	154
May, ...	444	240	73	70	72	109
June, ...	377	177	94	62	55	140
July, ...	300	182	75	47	55	112
August, ...	478	226	89	76	68	133
September, ...	608	269	118	100	84	176
October, ...	711	367	151	113	111	226
November, ...	698	416	89	114	130	133
December, ...	649	337	143	103	102	214
Year, ...	6,575	3,277	1,270	89	84	158

Relation of Croup to Diphtheria.—The gradual shrinkage of croup as a cause of death, and its inclusion among true cases of diphtheria, is illustrated in the following Table, which shows the deaths and death-rates from diphtheria and croup separately and together for the period of twelve years:—

TABLE XIX.

Glasgow.—DEATHS and Death-rates *per Million* from Diphtheria and Croup from 1895 to 1906.*

Year.	Deaths.			Death-rate per Million.		
	Diphtheria.	Croup.	Diphtheria and Croup.	Diphtheria.	Croup.	Diphtheria and Croup.
1895	112	73	185	161	105	266
1896	83	54	137	118	76	194
1897	97	48	145	136	67	203
1898	103	29	132	142	40	182
1899	106	17	123	145	23	168
1900	130	19	149	175	25	200
1901	110	13	123	144	17	161
1902	106	21	127	137	27	164
1903	105	13	118	133	17	150
1904	95	9	104	119	11	130
1905	110	11	121	136	14	150
1906	147	9	156	176	11	187

* Registrar-General's Annual Reports.

Age and Sex Distribution.—In former Reports the excessive fatality of diphtheria in infants has been pointed out, and the following Table repeats the illustration:—

Glasgow, 1906.—DIPHTHERIA and Membranous Croup.—Age and Sex Distribution of Cases and Deaths, with Case-mortality.

Age.	Cases.		Deaths.		Case-mortality per cent.	
	Male.	Female.	Male.	Female.	Male.	Female.
Under 1	23	14	9	6	39·1	42·9
1	77	61	16	12	20·8	19·7
2	63	66	10	17	15·9	25·8
3	70	68	6	7	8·6	10·3
4	56	52	7	5	12·5	9·6
5	181	223	16	15	8·8	6·7
10	42	77	1	5	2·4	6·5
15	18	38	1	1	5·6	2·6
20	16	39	...	1	...	2·6
25	16	40	1	...	6·3	...
35	2	16	...	...	...	...
45	2	7	...	...		...
55	...	2	...	...	...	...
65	1	...	...	...	...	...
All Ages,	567	703	67	69	11·8	9·8
	1,270		136		10·7	

Influence of School Holidays on the Prevalence of the Disease.—In the following Table, which is repeated on the lines of a corresponding one in last year's Report, it will be seen that an increase of diphtheria after the reassembling of the schools in August is again marked during the school period of life, namely, 3-13 years:—

Glasgow, 1906.—DIPHTHERIA and Membranous Croup.—Cases notified between May 21st and October 8th, 1906, arranged to show the Influence of School Holidays on Case-incidence.

Periods.	Cases Notified.						Increase or Decrease.						Total.
	Age, 0—3.		Age, 3—13.		Age, 13 and up.		Age, 0—3.		Age, 3—13.		Age, 13 and up.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1st. May 21 to July 6,	16	19	38	45	8	14	...	...	...	...	...	...	140
2nd. July 6 to Aug. 22,	20	7	32	30	5	15	+ 4	− 12	− 6	− 15	− 3	+ 1	109
							− 8		− 21		− 2		
3rd. Aug. 22 to Oct. 8,	25	15	52	75	9	25	+ 5	+ 8	+ 20	+ 45	+ 4	+ 10	201
							+ 13		+ 65		+ 14		
	61	41	122	150	22	54							
	102		272		76								450

Table No. XXI. is introduced with the view of contrasting the case-mortality in cases treated at home and in hospital for the years 1891 to 1906 inclusive. As formerly stated, a considerable reduction is to be observed in both at the later years of the period; but while this begins in hospital in 1895, the reduction in those treated at home does not become apparent until 1902. Moreover, the reduction is greatest among those treated in hospital, a circumstance which suggests that the more systematic administration of antitoxin, which is there adopted, exercises a considerable influence in averting a fatal result.

Occurrence of Diphtheria in an Institution.—During the latter weeks of 1906, 13 cases of diphtheria were recorded in one of the Institutions in the City where children are treated. These consisted of 9 patients and 4 nurses. The sequence of the cases suggested personal infection within the walls of the Institution, but, as the cases were distributed over four weeks, and continued after precautions were being observed, it was deemed advisable to exclude definitely the milk supply by a visit to the farm for the purpose of an examination of the cattle. Nothing implicating the animals was discovered, but during the course of the examination, the condition of one-quarter of the udder of a cow attracted the attention of the Veterinary Surgeon, and a biological examination of a sample of milk drawn from it established that it was tubercular in character.

TABLE XX.

GLASGOW.—DIPHTHERIA and MEMBRANOUS CROUP.

YEAR.	TREATED AT HOME.			TREATED IN HOSPITAL.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	390	100	25·6	75	31	41·3
1892	494	183	37·0	81	12	14·8
1893	671	183	27·3	157	63	40·1
1894	715	203	28·4	252	87	34·5
1895	468	111	23·7	186	26	13·9
1896	411	81	19·7	190	35	18·4
1897	310	88	28·4	152	39	25·6
1898	175	59	33·7	258	54	20·9
1899	222	75	33·8	243	34	14·0
1900	219	70	32·0	321	55	17·1
1901	241	64	26·5	322	51	15·8
1902	246	40	16·3	371	65	17·5
1903	209	32	15·3	515	71	13·8
1904	195	38	19·5	452	53	11·7
1905	145	26	17·9	581	81	13·9
1906	172	23	13·4	1,098	113	10·3

Infectivity of Mild Cases.—An illustration of the dangers attendant on the non-recognition of diphtheria in a mild form was brought under notice during the fortnight ending 25th July, 1906.

On 3rd July a girl, age 8, (*a*) on subjoined list, residing in the Southern District, complained of sore throat, but the parents did not consider her ill enough to require medical aid.

The household consisted of—

Girl, ...	aged 8 (*a*).	Patient who complained first.
Girl, ...	,, 9 (*b*).	
Girl, ...	,, 5 (*b*).	
Mother, ...	,, 37 (*c*).	
Baby, ...	,, 1 (*c*).	
Father, ...	,, 38 (*d*).	
Girl, ...	,, 4 (*d*).	

On 8th July the two girls marked (*b*) complained of sore throat, and on 9th the mother complained. On this date she also noticed that the baby was breathing heavily. The medical attendant had been called on 8th, and on 10th he asked that the five cases be visited from this department.

On a visit being made the same day, all the patients presented evidence of diphtheria, and were removed to hospital. The father, a postman, and the child, aged 4, were removed to the reception-house to allow of all the apartments of the house being disinfected.

A further illustration occurred under the following circumstances:—The family here dwelt in a two-apartment house in the east end of the City, and consisted of father, mother, and four children, the youngest a baby of 3 months. Two boys, aged 7 and 3, were notified on 10th as suffering from diphtheria, and removed same day. On the Inspector visiting the house, he found that a girl, aged 7½, was complaining of sore throat. Swabs were therefore sent to the medical attendant, and on 13th July the swab from this girl's throat proved positive, and she was removed to hospital. On 15th the mother, who had complained on 13th, was also removed to hospital after a positive swab had been obtained, and at the same time the baby was sent to the observation ward. The father, the only remaining member of the family, gave a negative swab, but was kept under observation for some time.

Free Distribution of Antitoxin.—The proposal referred to in my Report for last year, that provision should be made for supplying antitoxin gratis for the treatment of cases at home, was considered by representatives of the Committee on Health, in conference with a deputation from one of the medical societies. In view, however, of the large proportion of cases removed to hospital, and of the facilities for removal of patients at any time thereto, it was agreed to abide by the present custom.

ENTERIC FEVER.

388 cases of enteric fever were registered during 1906, of which 359, or 92·5 per cent., were treated in hospital. The number of deaths from this disease was 82, representing a death-rate of 0·102 per 1,000 living. The case-rate for the year was 483 per million living, compared with 569 in 1905, and the case-fatality rate was 21·1 per cent.; while the number of cases occurring was smaller than in any year formerly recorded, the fatality rate was higher than in any year since 1896. The average annual death-rate for several periods has been as follows:—

1881-90, ...	·230 per 1,000.
1891-1900, ...	·215 ,,
1901, ...	·275 ,,
1902, ...	·142 ,,
1903, ...	·182 ,,
1904, ...	·107 ,,
1905, ...	·067 ,,
1906, ...	·102 ,,

The following Table gives the attack-rate and death-rate per million and the case-mortality for each year since 1891:—

TABLE XXI.

GLASGOW.—ENTERIC FEVER, 1891-1906.

Year.	Cases.			Deaths.			Case-mortality per cent.
	Number.	Rate per Million.	Per cent. treated in Hospital.	Number.	Rate per Million.	Per cent. occurring in Hospital.	
1891	784	1,386	59·8	123	218	69·9	15·7
1892	590	884	58·3	101	151	67·3	17·1
1893	703	1,043	60·9	120	178	68·3	17·1
1894	810	1,184	72·2	151	221	76·2	18·6
1895	797	1,150	74·5	122	176	73·0	15·3
1896	691	982	71·1	145	206	72·4	21·0
1897	905	1,265	74·6	174	243	78·8	19·2
1898	1,212	1,657	86·6	228	312	86·0	18·8
1899	1,080	1,445	89·4	178	238	84·3	18·4
1900	1,013	1,340	85·1	158	209	85·4	15·6
1901	1,257	1,650	85·1	210	275	80·1	16·7
1902	698	899	90·7	110	142	88·2	15·8
1903	944	1,207	92·2	142	182	91·5	15·1
1904	628	800	91·6	84	107	89·3	13·4
1905	447	569	90·8	53	67	84·9	11·9
1906	388	483	92·5	82	102	87·8	21·1

For comparison with other towns the following particulars are given:—

DEATH-RATE PER 100,000 FROM ENTERIC FEVER IN CERTAIN LARGE TOWNS OF SCOTLAND AND ENGLAND FOR SEVERAL PERIODS.

	1896-1905.	1906.
Glasgow, ...	**20**	**11**
Edinburgh, ...	10	3
Dundee, ...	11	8
Aberdeen, ...	6	2
Paisley, ...	27	9
Greenock, ...	25	10
London, ...	12	6
Liverpool, ...	24	12
Manchester, ...	16	13
Birmingham, ...	19	7

The Ward distribution of the cases was as follows:—

TABLE XXII.

Glasgow, 1906.—ENTERIC Fever, Cases and Case-rates, and Deaths and Death-rates, in each Municipal Ward for the past four Years.

Municipal Wards.	Death-rate per Million.			1906. Cases.		1906. Deaths.	
	1903.	1904.	1905.	Number.	Rate per Million.	Number.	Rate per Million.
1. Dalmarnock, ...	256	59	162	23	460	9	180
2. Calton, ...	282	79	81	18	499	5	139
3. Mile-end, ...	394	93	46	35	784	7	157
4. Whitevale, ...	296	121	91	26	793	3	91
5. Dennistoun, ...	154	204	85	6	166	5	138
6. Springburn, ...	121	118	71	30	693	5	116
7. Cowlairs, ...	134	66	65	10	321	2	64
8. Townhead, ...	175	76	154	14	366	4	105
9. Blackfriars, ...	260	133	45	6	275	1	46
10. Exchange, ...	448	...	...	..	...	...	...
11. Blythswood, ...	...	...	...	1	305	...	...
12. Broomielaw, ...	120	...	129	10	1,323	3	397
13. Anderston, ...	271	172	34	11	382	1	35
14. Sandyford, ...	75	77	39	16	639	2	80
15. Park, ...	80	79	...	10	402	5	201
16. Cowcaddens, ...	450	157	80	20	549	3	82
17. Woodside, ...	66	200	...	25	575	3	69
18. Hutchesontown, ...	238	241	123	24	601	8	200
19. Gorbals, ...	164	55	55	15	418	2	56
20. Kingston, ...	86	86	116	13	378	2	58
21. Govanhill, ...	89	30	30	6	177	1	29
22. Langside, ...	67	...	28	8	206	...	...
23. Pollokshields, ...	118	...	...	8	450	3	169
24. Kelvinside, ...	53	50	...	6	275	1	46
25. Maryhill, ...	27	160	26	12	301	2	50
26. Kinning Park, ...	...	...	...	2	148	1	74
— Institutions & Harbour,	...	...	...	33	...	4	...
CITY, ...	182	107	67	388	483	82	102

DEATH-RATE IN "HOSPITAL" AND "HOME" CASES COMPARED.

The following Table is again introduced to continue the contrast in fatality between cases treated at home and in hospital. Since 1901 the hospital death-rate has been continuously below that of the home cases, and the increasing severity of the disease last year is reflected in the fact that of those treated at home 1 in 3 died, as compared with 1 in 5 treated in hospital:—

TABLE XXIII.

GLASGOW.—ENTERIC FEVER.

YEAR.	TREATED AT HOME.			TREATED IN HOSPITAL.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	315	37	11·8	469	86	18·3
1892	246	33	13·4	344	68	19·8
1893	275	38	13·8	428	82	19·2
1894	225	36	16·0	585	115	19·7
1895	203	33	16·3	594	89	15·0
1896	200	40	20·0	491	105	21·4
1897	230	37	16·1	675	137	20·3
1898	162	32	19·8	1,050	196	18·7
1899	114	28	24·6	966	150	15·5
1900	151	23	15·2	862	135	15·7
1901	187	42	22·5	1,070	168	15·7
1902	65	13	20·0	633	97	15·3
1903	73	12	16·2	871	130	14·9
1904	53	14	26·4	575	70	12·2
1905	41	8	19·5	406	45	11·1
1906	29	10	34·5	359	72	20·1

SHELLFISH INFECTION DURING HOLIDAYS.

(*Extract from Minute of date 12th September, 1906.*)

During the six weeks ending 31st August 63 persons are known to have sickened of enteric fever in Glasgow, and of these 22 had been resident beyond the city on holiday during the probable period of infection. This relationship is brought out very definitely on comparing the dates of sickening with the period during which the July holidays prevailed.

In the week ending 28th July 5 cases of enteric fever sickened in Glasgow, and none can be attributed to holiday influences. In the succeeding weeks, ending 4th, 11th, 18th and 25th August, the number of persons sickening was respectively 13, 20, 12, and 5, among which 9, 8, 4, and 1 respectively had been on holiday and 8 admitted eating shell-fish as gathered. Since the latter date no further cases have occurred among holiday-seekers.

Enteric Fever and Holiday Resorts.

An appreciable number of the cases of enteric fever which occur towards the end of summer sicken at intervals which point to infection having been contracted during a holiday period, and the following notes by Dr. Wright again bring into prominence the desirability of a systematic control of shellfish layings:—

"In over 30 cases of enteric fever sickening during the months July to October, infection was contracted during a holiday—21 were infected at watering places on the West Coast, 6 on the East Coast, and the remainder at towns in the country. In 8 cases a definite history of having partaken of shellfish gathered by themselves from the neighbourhood of sewage outfalls at coast towns was obtained.

"On communicating with the Medical Officers of Health of the towns referred to, it was learned that the situations from which the shellfish were procured were considered dangerous by reason of pollution of the foreshore with sewage, and that in some instances notices were placed in conspicuous situations warning the public of the possible danger of eating shellfish gathered there.

"Other four cases sickened of enteric fever, the result of eating shellfish bought in shops within the city supplied from sources on West Coast. On ascertaining at those shops the sources of their supply it was deemed advisable to make a survey of the whole trade in shellfish as carried on within the city boundary, and as the result of this inquiry the following information was elicited:—

"*Trade in Shellfish in Glasgow.*—It would appear there are some 11 retail shops in Glasgow dealing only in this commodity, and that although up till quite recently a barrow trade was carried on in the streets of the city, it now seems almost to have ceased altogether. Nine of these shops are supplied by two wholesale dealers (A and B) who have had a long experience in the trade.

"A's sources of supply are Kilmun, Blairmore, and Sandbank, &c. There are seven gatherers in those places, who, from long experience, are able to distinguish between sick and healthy shellfish, and are stated to reject the former. A obtains about 20 bags of mussels—about 1½ tons—weekly from these sources. Consignments arrive regularly per Messrs. MacBrayne's steamers every Tuesday, Wednesday, Friday, and Saturday, and on arrival at the Bridge Wharf are sold by him wholesale in the raw state. He supplies 6 retail shops in Glasgow.

"B's only source of supply is Arrochar, Loch Long. B, with 3 Glasgow and local gatherers, have for years been in the habit of obtaining their shellfish close to the top of the Loch, stated to be a clean situation and free from pollution. Small quantities arrive daily, large quantities on Saturdays per N.B. Railway arriving at Sighthill Goods Station, and are delivered at B's shop. The total amount from this source arriving weekly is about 2 tons.

"The trade consists of mussels chiefly, cockles and whelks arriving at irregular intervals and in very small quantities. A's sources of supply of whelks are Pirnmill, Blackwaterfoot, Carradale, Ettrick Bay, Blairmore, and Lochgoilhead. These are picked by local gatherers only, and are despatched by A's orders. The consignments from the various gatherers are not kept distinct, so that it is impossible to trace the source of supply of those who retail the shellfish to the public, except in a few instances only. All shellfish arrive in Glasgow in the live state. Mussels are stated to live 3 or 4 days in cold weather, and whelks about 14 days. They are all mostly boiled on arrival at the retail shop, but a few are still kept in the raw state and so sold at the desire of the public. It would appear, however, that, since the warning notices in the Press, the public have become considerably alarmed as to the possible danger of consuming raw shellfish, and now the demand for raw shellfish is almost infinitesimal.

"The remaining 2 retail shops in Glasgow gather their own shellfish—one at the Gareloch, and the other from Row, Mambeg (Gareloch), and Arrochar.

"Dr. Caldwell Smith, the Medical Officer of Health, Wandsworth, London, called attention in the month of April to 5 cases of enteric fever which occurred in his district as the result of eating shellfish, which on subsequent investigation was proved to have come from Lochgilphead, between Otter Ferry and the boundary between Lochgair and Minard. This is the area whence came the shellfish which caused certain cases of enteric fever in Glasgow in 1903. In pursuance of this same investigation, Dr. Roger M'Neill, Medical Officer of Health, Argyllshire, ascertained that a regular trade in whelks is carried on between Loch Gilp and Billingsgate, London. Dr. Caldwell Smith appears to be satisfied that the 5 cases of enteric fever which occurred in his district were directly traceable to infection by shellfish gathered at Loch Gilp."

Enteric Fever and Military Camps.

During the autumn an inquiry was conducted into the incidence of enteric fever attributable to military camps.

Careful inquiry was made at the headquarters of the various volunteer corps in Glasgow, and instructions were issued to the staff of Epidemic Inspectors to note the circumstance of any case occurring after return from camp. The result was satisfactory, for in none of the cases notified was the source of the infection traceable to volunteer camps.

CEREBRO-SPINAL FEVER.

The circumstances under which this disease was recognised are described in the following memoranda, which were submitted to the Committee on Health.

The disease was made notifiable under the Act on 10th August, 1906.

During the current year I presented the main features of its prevalence down to March last to the Epidemiological Society of London in a paper which is published in the Transactions of the Society.

The Ward distribution of the disease till the end of 1906 is shown on page 91.

MEMORANDUM BY MEDICAL OFFICER ON CEREBRO-SPINAL FEVER.

The disease, which forms the subject of this memorandum, is variously known as cerebro-spinal fever, epidemic cerebro-spinal meningitis, spotted fever, &c.

It is mainly a disease of the membranes of the brain and spinal cord, but may have associated lesions in the lungs, nose, ears, and eyes. It may prove fatal in less than 24 hours, or it may be prolonged over several weeks. It varies also in intensity, and is liable to be confounded with other forms of brain disease. It would appear sometimes to be regarded clinically as influenza or pneumonia. It chiefly attacks children or young adults. It may appear sporadically—that is, there may be no traceable connection between cases—but epidemics have occurred in which groupings of cases have been recognised. It is known to have followed direct contact with persons sick of the disease, as in nursing or visiting them, but it has also followed the use of bedding in which they have been nursed, and the occupancy of a house which they have vacated. It is, therefore, infectious, although the conditions of its spread are but ill known.

It is associated with the presence of a micro-organism in certain tissues of the body (Weichselbaum's diplococcus), and the occasional recovery of this in discharges from the nose, lungs, and ears suggest some, at least, of its methods of spread.

During last year the disease occurred in epidemic form in New York, and in some parts of Central Europe, while in England an outbreak in Irthlingborough, Northamptonshire, was reported by Dr. Reginald Farrar, of the Local Government Board of England. Other isolated groups of cases subsequently occurred, and in the autumn of 1905 (August and September) the Local Government Boards of England and Scotland issued circulars thereon to the Local Authorities within their several jurisdictions. In the latter circular the Board expressed the opinion that, in the event of groups of cases of illness that might possibly be of the nature of cerebro-spinal fever being discovered within the district of any local authority, it will be important that the fact should be made the subject of a special report to the Local Authority by the Medical Officer of Health, and this report is prepared in compliance with that suggestion.

During 1905 I had, through the courtesy of Dr. Wallace Anderson, of Dennistoun, repeated opportunity of seeing with him several isolated cases of meningitis of a type which he considers to have been present since 1891. No suggestion of grouping, however, occurred, nor were there any in which the organism was recovered, until the following incidents arrested attention:—

(1) During March of this year two cases were reported in a family residing in Main Street, Gorbals. Both were in children, who sickened on the 10th and 13th respectively. The first child died after 22 hours' illness, the second after 9 weeks.

(2) During April two children, aged 3 and 8, of a family which had recently arrived in town from Shettleston, sickened within 24 hours of each other. In the elder child death followed in 4 days, in the younger after 22 days.

Coincidently with these a male adult, who had arrived in Glasgow from Bonar Bridge on 7th April, sickened on the 15th, and died on the 19th in the Royal Infirmary. From this patient, and the two immediately preceding, the organism of Weichselbaum was recovered.

Other cases were also intimated from the Royal and Western Infirmaries and elsewhere, and at the time of reporting these number about 23, of which 2 are known to have sickened in March, 9 in April, and 12 in May; of these, 16 proved fatal. In 3 cases, however, although death occurred in hospital, patients had been admitted from Port-Glasgow, Partick, and Whifflet respectively. In 6 only was the organism of Weichselbaum recovered. Some of the cases may, therefore, have been meningitis arising from other causes; but it would appear that even when true cerebro-spinal fever is present the specific organism may disappear during the later stages of the illness. Moreover, meningitis associated with the organisms present in pneumonia, tubercle, anthrax, and erysipelas are all recognised.

Symptoms.—As has already been indicated, the malady is characterised by acute symptoms, chiefly referable to the nervous system. The onset is usually sudden, with headache, shivering, and occasional vomiting. Stiffness of the muscles of the neck with retraction of the head may follow, and there may be delirium, sometimes alternating with apathy and stupor. There may be tenderness along the cervical or dorsal spine, or it may be more generally distributed. Squint, unequal pupils, and other paralytic symptoms have been noted. Herpes on the lip and a purpuric skin eruption are sometimes present. In the children forming group (2) above-noted a limited number of spots were present on the skin from the third day of their illness. These were few in number, petechial in character, and irregularly distributed. In one child they were present on the abdomen and ankle, in the other on the neck and upper part of the chest, and on the inner aspect of the thigh and ankles. They were more pronounced than a typhus rash, and much more limited in distribution.

Pulse and temperature both follow an irregular course, and there is usually no relation between them in the earlier stages.

When death results a purulent or seropurulent exudation may be found on the under surface of the brain or spinal cord.

On 21st May, with the approval of the Hospitals Committee, I issued to medical practitioners a circular inviting intimation of all cases of cerebro-spinal fever which had come under their notice during the past twelve months, but the returns received till the present only add ten cases to those above referred to.

Were the disease made notifiable, it is to be expected that a detailed study of the symptoms presented by these cases in which Weichselbaum's organism is present would enable cerebro-spinal fever to be more readily separated from those other forms of meningitis with which it is so liable to be confounded.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 31st May, 1906.

MEMORANDUM ON CEREBRO-SPINAL FEVER BY MEDICAL OFFICER OF HEALTH.

The recognition of this disease recently in Belfast and an increase in the numbers notified in Glasgow during the month of January have concentrated public attention on its movements, and make some short statement of its present position desirable.

In the memorandum which I presented to the Health Committee in May of last year in support of the suggestion that it should be included within the Notification Act, attention was drawn to the circumstance that many of the leading symptoms of this disease were closely allied clinically to certain other diseases, especially of the central nervous system, but that in certain cases a distinction could be drawn by the recovery of a micro-organism known by the name of its discoverer, "Weichselbaum." It was noted, however, that the organism might escape detection, especially in the later stages of the disease.

Before dealing, therefore, with the cases notified, it may clear away some misconception if we inquire whether any changes are discoverable in the group of diseases of the nervous system with which this particular form may most readily, by reason of its symptoms, become included. And for this purpose the most reliable source of information is a record of the deaths which have been attributed to one or other of these forms during recent years.

The groups here distinguished are (1) cerebro-spinal meningitis (cerebro-spinal fever), (2) meningitis—inflammation of the brain, &c., and (3) tubercular meningitis.

TABLE I.

GLASGOW, 1901-6.—STATEMENT OF DEATHS CERTIFIED UNDER EACH GROUPING.

	1901.	1902.	1903.	1904.	1905.	1906.
(1) Cerebro-spinal meningitis (C.S. fever),	1	—	—	—	—	147
(2) Meningitis (simple) inflammation of the brain, &c., ...	438	414	411	388	363	329
(3) Tubercular meningitis, ...	237	244	240	260	237	307
	676	658	651	648	600	783

The most prominent feature of this table is the evidence it contains that during 1906 the combined deaths from these forms of disease exceeded by 136 the average of the preceding years.

This results from an increase of 63 under "tubercular meningitis," and 147 ascribed to cerebro-spinal fever, against which must be placed a reduction of 74 from simple meningitis.

It is important to follow these changes a little more closely. Age plays an important part in determining susceptibility to meningeal affections, and a short statement of the relative prevalence at three age-periods will serve to explain why the subsequent inquiry is confined to ages under 20.

In the year 1906 the deaths ascribed to the tubercular and non-tubercular forms of meningitis (excluding cerebro-spinal fever) at ages 0-5 numbered 449; at ages 5-20, 144; and at ages 20-60, 39.

Again, at ages 0-5 and 5-20 the numbers attributed to tubercular meningitis exceeded in this year the average number formerly registered, and at both of these age-periods the numbers attributed to simple meningitis are fewer, with one exception —viz., 1905.

At the age-period 20-60 the number of deaths attributed to both forms were 32, 39, and 39, and may therefore be excluded from further consideration.

Now we may follow the record into the numbers registered in each month of 1906, and restrict our inquiry to the deaths occurring under 20. For the present we shall exclude cerebro-spinal fever, and deal first with simple and then with tubercular meningitis.

TABLE 2.

DEATHS REGISTERED AS DUE TO MENINGITIS—INFLAMMATION OF BRAIN, &C., AGES 0-5.

Months.	Total Deaths, 1901-5.	Average Number Monthly.	1906.	Departure from Average.
January, ...	117	23	31	—
February, ...	102	20	31	—
March, ...	124	25	20	—
April, ...	138	28	27	—
May, ...	132	26	32	—
June,...	125	25	29	—
July, ...	133	27	5	22
August, ...	152	30	7	23
September, ...	117	23	18	5
October, ...	114	23	14	9
November, ...	98	20	8	12
December, ...	106	21	9	12
	1,458			83

On running down the line of figures under 1906, two facts are apparent. A change, which is scarcely a natural one, began in July. The shrinkage which then occurs has no parallel in former years. During 1901-05 the deaths occurring monthly were fairly uniform throughout the year, being, on an average, 123 in the first six months and 120 in the second. In 1906, on the other hand, 170 deaths are attributed to meningitis during January to June, and only 61 in July to December. The increase in the first half of the year is quite as striking as the shrinking in the latter half, but its significance differs.

Ages 5-20.—It will be sufficient here to reproduce only the half-yearly figures—

MONTHS.	Total Deaths, 1901-5.	Average Number Monthly.	1906.	Difference.
January to June, ...	195	39	44	+ 5
July to December, ...	146	30	20	−10
	341	69	64	− 5

The departure from the average is still marked here, but less pronounced because of the smaller number of deaths occurring.

Tubercular Meningitis.—It has already been shown that the number of deaths attributed to tubercular meningitis had increased during 1906. Again, therefore, it becomes desirable to discover during what part of the year this increase occurred, and we must follow a line of investigation similar to that adopted in Table II. in dealing with simple meningitis. This has, therefore, been done in the following table:—

TABLE 3.

Deaths Registered as due to Tubercular Meningitis, Ages 0-5.

Months.	Total Deaths, 1901-5.	Average Number Monthly.	1906.	Departure from Average.
January, ...	66	13	15	—
February, ...	74	15	13	—
March, ...	76	15	16	—
April, ...	95	19	14	—
May, ...	83	17	15	—
June, ...	62	12	12	—
		— 91	— 85	
July, ...	79	16	21	5
August, ...	64	13	25	12
September, ...	60	12	21	9
October, ...	73	15	18	3
November, ...	56	11	21	10
December, ...	68	14	27	13
		— 81	—133	
	856	172	218	52

If we take as our basis for comparison the average number of deaths occurring in each half of the years 1901-05, we find some tendency towards a decrease in the incidence of the disease during the months January to June, but an increase from July to December. This difference is shown in 85 deaths in all being recorded in the first half of 1906 as against 91 in the corresponding portions of 1901-05, while from July to December the deaths attributed to it in 1906 number 133, as against 81 in previous years.

Ages 5-20.—Following again the shortened form adopted in dealing with the deaths from simple meningitis at these ages, the following statement of deaths may be made:—

Months.	Total Deaths, 1901-05.	Average Number Monthly.	1906.
January to June, ...	171	34	35
July to December, ...	151	30	45
	322	64	80

Can we, then, from these figures form any concrete conception of the movement of meningeal disease in the period under review? We have seen that a fairly uniform incidence and seasonal distribution is maintained until the beginning of 1906, when already in the early months of that year an increasing prevalence is reflected in the deaths which for the first six months are attributed to ordinary meningitis. Deaths due to the tubercular variety of the disease are meanwhile uninfluenced, but in the second half of the year both undergo a change which is without parallel in the previous periods. Deaths ascribed to simple meningitis decrease, while those from the tubercular variety increase, and, as we know, a new group of cerebro-spinal fever is formed. What circumstance aided in producing this change in nomenclature? During the late spring months of 1906, attention had been directed to the recognition of a few cases of true cerebro-spinal fever, and in May the Hospitals Committee authorised the issue of a circular to medical practitioners asking whether other cases of the disease had come under their notice. After the requisite procedure, the disease was made notifiable in August.

The questions now to be answered concern the actual proportion of cerebro-spinal fever in the total volume of meningeal affections. Apart from actual demonstration of the fact by *post-mortem* examination, I know of no circumstance which suggests that tubercular diseases, meningeal or otherwise, are increasing. Does the excess of deaths attributed to this form of meningitis in the later months of 1906 cover some which are true cerebro-spinal fever, and what proportion of both may be ascribed to simple change in nomenclature? Neither of these questions can be satisfactorily answered at the moment, but they both indicate a need for the greatest care in scrutinising the deaths which are being attributed to the epidemic form of the disease. It has been said that we are still groping our way towards a true clinical picture of the disease, and that bacterial verification is sometimes impossible, even when the disease is present. Bearing this in mind, we may examine the cases which have been registered since the spring of last year.

It is convenient as well as instructive to consider them in groups, which will distinguish between those treated in the fever hospitals and those treated at home or in the general hospitals.

CEREBRO-SPINAL FEVER.

Cases Registered during 1906.	Total.	Bacterially Verified.	Not Verified.	Not Cerebro-Spinal Fever.
In fever hospitals, ...	110	65	28	17
At home or elsewhere, ...	103	22	77	4
	213	87	105	21
Deaths—				
In fever hospitals, ...	72	47	20	5
At home or elsewhere, ...	76	18	56	2
	148	65	76	7

The Fatality of the Disease.—It is from this point of view that the "non-verified" case acquires its true significance, and with it the validity of the argument for transferring some deaths from the class of simple meningitis to the epidemic variety. Of 105 cases belonging to the "non-verified" category 76 died, which is equal to a fatality rate of 72 per cent., and the proportion of fatal cases scarcely varies, whether we take it on the hospital or home deaths separately. And on comparing both with the fatal cases among the bacterially verified, the fatality rate corresponds almost accurately with that of the hospital cases, but falls short of that obtaining among the "home" cases, where the fatality rate is 82 per cent. Save, therefore, for the larger proportion of cases, not cerebro-spinal fever, occurring among the hospital group (seventeen in all, of which three were pneumonia and four tubercular meningitis), the inference from both is that we are dealing with a peculiarly fatal form of meningitis, and that is being recognised outwith as well as within the hospital.

In dealing with the cases registered during January, we may adopt the same classification, but cannot attach to the various groups the same rigid interpretation, as many are still under treatment.

JANUARY, 1907.—CASES REGISTERED AS CEREBRO-SPINAL FEVER.

Cases.	Total.	Verified.	Not Verified.	Not Cerebro-Spinal Fever.
In fever hospital, ...	57	34	8	15
At home or elsewhere, ...	50	11	37	2
	107	45	45	17
Deaths.				
In hospital, ...	23	18	—	5
At home or elsewhere, ...	32	8	22	2
	55	26	22	7

Death-rates calculated on either the verified or unverified groups here would seem to indicate a considerable reduction in the fatality—51 and 49 per cent. respectively—but at the moment any such inference would be unwarranted for the reason just stated.

Distribution of the Disease.—From the foregoing it will be seen that the cases registered during January show a considerable increase. This began in the second week of the year, since which the weekly numbers registered have been, respectively, 32, 28, and 28 for the three weeks ending 2nd February. While isolated cases in most wards are of occasional occurrence, the numbers tend to concentrate in the wards towards the eastern and north-eastern portions of the city and in some districts of the South-Side.

Age Distribution.—The age distribution of the cases follows in a general way what has already been referred to as characteristic of meningeal diseases in general—that is, about 56 per cent. are occurring among children under 5 years of age, 21 per cent. at ages 5-10, and 11 per cent. at ages 10-20.

Regarding the method by which the infection is conveyed, nothing of a definite character can be said. Multiple cases in households have been observed, but they have mostly been so closely related in date of onset as to suggest simultaneous infection. One of the most suggestive circumstances observed has been the occurrence of a considerable number of cases among breast-fed infants who had no known association with any family suffering from the disease. It was one of the older theories held concerning cerebro-spinal fever that infection reached the central nervous system along the nerve tracts, and the increasing prevalence of the disease during January may have some relation (through depressed vitality and the natural resistance to disease) to the somewhat exceptionally low temperatures which characterised the weeks ending 29th December and 26th January. Whether any definite relation to this can be finally established remains to be seen, but the association suggests that the utmost care should be taken to guard young children against the variations of temperature, and especially the low temperatures through which we are presently passing.

This, together with a rigid observance of absolute cleanliness of everything which may be placed in the mouths of young children, whether for food or other reasons, are suggested by the facts which have come under notice.

In households where cases occur it should be remembered that discharges from the mouth, nose, and ears have been associated with the occurrence of the disease in former outbreaks elsewhere.

It may be well to state in more precise form the relationship of cases to each other, and for this purpose an analysis has been made of those occurring during January, with a view to showing—

(1) The number of houses with more than one case;
(2) The number of tenements with more than one infected house; and
(3) The intervals between multiple cases in houses and tenements respectively.

On being thus arranged, we found that multiple cases had occurred in nine houses in which there were altogether 19 cases, there being three in one house. Whereas, on the other hand, only one tenement had more than one house infected.

With regard to infectivity, therefore, the risk of direct transference from person to person does not appear to be excessive, but it is obviously much greater to the other members of the invaded household than to other houses in the tenement.

Period of incubation as indicated by interval between successive attacks.—Of the 19 cases occurring in the nine households, the interval in one household was less than 24 hours, in two less than 48 hours, and in one household less than four days. If we regard this range as being within the likelihood or possibility at least of simultaneous infection, there are three others where the intervals were 7, 8, and 9 days respectively, and which suggest secondary infection or reinfection from the same source. Moreover, in the one household with three cases, there was an interval of three days between the first and second case, and two days between the second and third sickening.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 5th February, 1907.

MEMORANDUM BY THE MEDICAL OFFICER OF HEALTH OF GLASGOW SUBMITTED TO A MEETING OF THE PUBLIC HEALTH COMMITTEE HELD ON 22ND MAY, 1907.

CEREBRO-SPINAL FEVER.

Since the memorandum of 5th February last, which was presented to the committee in the report for the fortnight then current, I have restricted formal reference to this disease to a simple statement of the number of cases registered and of the deaths occurring in successive weeks.

This seemed desirable, for the reason that we had to deal with an epidemic disease whose chief characteristic was malignity, and which spread by methods that were largely conjectural.

Continued observation during this interval has brought a considerable volume of evidence to suggest that, under average conditions, cerebro-spinal fever is possessed of a limited range of infectivity, that it spreads, in the majority of instances, through the agency of an intermediary—like the 'carrier' case in diphtheria—but that it can, under conditions which tend to produce air impurity in confined spaces, assume the characteristics of a true air-borne disease—like typus fever or measles—and attack a considerable proportion of the persons breathing the same air.

It also suggests that the much debated relationship between insanitary conditions and the spread of the disease resolves itself into a question of the condition of the air surrounding the patient—that when the space is limited and the air impure the power of direct infection is greatly intensified. Of this last, indeed, the increase in the number of cases registered during the weeks ending 27th April and 4th May* is a striking illustration.

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* For the weeks ending April 6, 13, 20, 27, and May 4, 11, and 18, the cases registered were 35, 36, 36, 43, 59, 20, and 30 respectively.

The chief results of the inquiry to which I have referred were embodied in a communication to the Epidemiological Society of London, on May 3rd, and from this paper I take the following extracts:—

Till the end of March, 1907, the movement of the outbreak falls into two periods—not equal in length, but sharply divided by the numbers occurring, by their distribution, and by evidence of an increased virulence of attack.

The second period began in the week ending January 12th,† and although up till the end of 1906 only three wards in the city had an absolutely free record, quite two-thirds of the cases were from the east and north-eastern portions, which have an estimated population of 334,179, or about two-fifths of the whole. Yet in none even of those wards did the cases occur in consecutive weeks. In some, indeed, they were separated by intervals of weeks. But when the increasing prevalence was established in January, weekly recurrences became more frequent, and in this respcct the outbreak assumed one of the features, at least, of a true zymotic disease.

The following Table presents this altered incidence. A considerable portion of the increases in the second period was supplied from the districts in which formerly the disease had been least prevalent:—

WARDS.	1906. (June to December.)		1907. (January to March.)	
	Cases.	Per cent.	Cases.	Per cent.
1—9	134	67·3	251	53·6
9A—26 ...	65	32·7	217	46·4
Total, ...	199	100·0	468	100·0

Changes Accompanying Increased Prevalence.—The first most noticeable feature which accompanied the increased prevalence of the disease was increased severity of attack. There was also a more frequent occurrence of multiple cases in families—an increasing tendency to invade families living under better housing conditions, and a lessening in the proportion of cases in infants under one year.

Relation to Insanitary Conditions.—There is a tendency, I think, to regard the disease as being less influenced by insanitary conditions than most others with which the sanitarian is called to deal. Inquiring with regard to this some time ago, I quote some of the notes made at the time.

In one ward, out of 25 invaded houses, 11 were definitely dirty, although not filthy in the sense of administrative action. In another, of 50 invaded houses, 12 were definitely filthy. In a third, with about 60 invaded houses, in 6 only has there been any degree of dirtiness. And again, of 40 cases all were in relatively clean houses.

The general conclusion was that the houses invaded in any district reached the average standard of cleanliness for that district.

From this method of classifying them it was impossible to suggest that the disease was invariably selecting the dirtiest houses; but when one discarded the general term "dirtiness" for one of pressure on air space, the question took a different complexion, which may thus be indicated.

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† The mean temperature of the week ending December 29, was low, and this was regarded as having some bearing on the increased prevalence which followed. But the meteorlogical associations can only be adequately considered when the outbreak is over.

Proportion of cases occurring in Houses of several sizes compared with Proportion of Population living in them.

—	(1.) 1906. Proportion of Cases Occurring.	(2.) Proportion of Population Living in Houses of Various Sizes. (Census, 1901.)	(3.) 1907. January to March. Proportion as in Column (1).
1 apartment, ...	22	14	18
2 apartments, ...	62	47	61
3 " ...	14	21	15
4 " and upwards,	2	18	6
	100	100	100

It would be possible to establish a similar excessive incidence on houses of smaller size for almost all the infectious diseases, and for some which are not infectious; but the comparison, I think, suggests that of all the conditions which may be classed as insanitary, that of which the system is least tolerant is misuse of the air of respiration. Indeed, there occurred one instance to which I shall again refer, where, in a densely-overcrowded house, the disease exploded with an intensity which recalled typhus fever, and attacked fatally 5 out of 10 inmates. Here there was a family of 10 persons, of whom 5 were adults, living in a two-apartment house containing just over 2,100 cubic feet.

Support to the suggestion that air impurity or defective ventilation promotes the spread of the disease, is afforded if we compare the number of inmates of invaded houses with the average for each size; for in the one-apartment houses which were invaded there were more than 4 persons (4·3) as against 3·183 for all houses of this class; in the two-apartment houses which were invaded the average occupancy was 6 persons as against less than 5 (4·927) for all houses of this class; and in the three-apartment houses which were invaded the occupants averaged 6·7 against 5·409 in all houses of three apartments.

Number of Inmates in Invaded Houses compared with Average Number in all Houses of corresponding size.

Size of Houses.	Invaded Houses, 1906.	Average Occupancy. (Census, 1901).	Invaded Houses, 1907. (January to March).
1 apartment, ...	4·3	3·183	4·1
2 apartments, ...	6·0	4·927	6·1
3 " ...	6·7	5·409	7·4

Age Distribution.—The age distribution of the disease is of some importance. Dr. Grimshaw's statement is that it is common in those approaching puberty or in early adult life, although not infrequent in children. It would appear to have been mainly a disease of early adult life in several outbreaks; and from Dr. Porter's report on the health of Johannesburg (1906), I find that in the recent outbreak there it attacked mainly white children and kaffir adults, the latter being employed, I think, in certain of the mines.

There are obvious objections to comparing different outbreaks on the basis of attacks only, but in the following table I have adopted this method of stating the proportions given by Dr. Taves, of New York,* in his analysis of the Gouverneur Hospital cases, and comparing them with our own.

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* Fiske Fund Prize Essay.

Percentage Age Distribution of Cases.

	– 1	– 5	– 10	– 15	– 20	– 25	– 35	– 45	– 55	55 +
Fiske Fund Essay, - -	9	38	23	21	6	3	oldest 25 years			—
Glasgow, 1906,† - -	18	38	20·5	10·2	4·4	3·9	2·9	·9	·9	—
Glasgow, 1907† (January to March), - - -	14·5	38·1	18·2	11·6	5·5	2·8	5·5	2·8	1·7	—

Comparing both with the proportion (71 per cent.) given by Hirsch of 1,267 fatal cases, New York has 91 per cent., and Glasgow 87 and 82 per cent. of cases, at ages 0-15.

The proportion of cases among infants under one year has some bearing on methods of infectivity; and here we may only note that in Glasgow we had 18 and 15 per cent. against 9 in New York.

Nature of Food in Infants under One Year with Relation to Method of Infection.—At an early period the condition of the intestine in fatal cases arrested attention by the presence of patches of congestion in the intestinal canal. These were situated sometimes in the duodenum, but most commonly towards the lower end of the ileum, where the congestion might be confined to Peyer's patches, or be more uniformly distributed. Did food play any part in the spread?

One or two cases brought definitely into view the occurrence of quite temporary diarrhœal disturbances, either in the patient or in others of his family, preceding the definite onset of the disease; and this led to systematic inquiry for minor disturbances in health in the inmates of invaded houses. But no mass of evidence in this direction could be found, and efforts to recover the meningococcus from the intestinal discharges or in the bowel wall have not hitherto been successful.

But on the general question I am disposed to regard the relative infrequency of simultaneous attacks in families, and the occurrence of the disease in children who, after inquiry, one can regard definitely as being wholly breast-fed, as setting aside food as a common vehicle of infection—if it is indeed one which is ever operative—and of this we have no evidence.

In one or two instances of breast-fed babies, however, the occasional soiling of "dummy teats" was noted as affording a possible method of mouth infection.

I may here place on record the age and character of the feeding in the case of 43 infants, where it was carefully investigated.

Cases Occurring among Infants under One Year, and Nature of Feeding.

Age in Months.			Total.	Nature of Food.
—3	—6	—12		
‡2	10	12	24	On Breast alone.
—	6	5	11	On Artificial Food alone—(Milk, condensed and sweet, Bread).
—	2	6	8	On both (Porridge—Milk, condensed and sweet).
2	18	23	43	

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† Subject to revision, as all cases registered as cerebro-spinal fever are included in the figures.

‡ 1—20 days old. 1—8 weeks old.

Multiple Cases in Households.—I have already referred to one instance when the disease behaved in an over-crowded house much after the manner of typhus fever. There were others of a like—although less pronounced—form; and it rapidly attracted notice that in the second period of our outbreak these occurrences were more numerous than during 1906. It was regarded, indeed, as evidence that the organism was acquiring an increased virulence. And yet the most striking feature of these incidents is that they are relatively infrequent. Of 186 households invaded during 1906, there were 6 only in which 2 cases occurred, and 1 family had 3 attacks. There is thus something less than 4 per cent. (3·8) of multiple attacks in this period; but during January to March, 7·5 per cent. of the invaded houses had multiple attacks, there being 26 households in which 2 cases each occurred, 3 households had 3 cases each, 1 had 4, and another 5.

It was difficult at first to find any factor which appeared to determine the greater incidence in these houses. The special susceptibility of children, as indicated by the excessive proportion of cases at ages under 10 years, was, of course, obvious, and so our multiple cases usually occurred where children were numerous. But when the question of air impurity emerged, the actual number of inmates in invaded houses assumed greater importance; and it was found that an approach to grading the number of inmates in relation to the number of attacks therein could be made.

This may be indicated in the following table:—

Number of Persons Attacked per House.	Inmates per House.			
	One Apartment.	Two Apartments.	Three Apartments.	Four Apartments.
1 each, ...	4·2	5·8	7·4	7·2
2 „	5·0	7·0	7·5	7·5
3 „	5·0	8·0	—	—
4 „	—	8·0	—	—
5 „	—	10·0	—	—

In some cases the difference in the number of inmates is small, but the figures seem to me to suggest that air impurity is related both to the question of invasion of particular households and to the possibility of multiple attacks occurring.

In these multiple invasions, however (31 houses in all), it was found that a certain number occurred at varying intervals *after* the termination of the earlier case and disinfection of the house.

Of such there were 17, but leaving aside 3 third cases and 1 fourth case, there were 13 secondary attacks occurring after the following intervals.

Interval between Disinfection *of House and* Sickening *of subsequent Cases.*

	Days.							Weeks.			Months.	
	1	2	3	4	5	6	7	2	3	4	2	3
No. of Cases, ...	2	1	1	1	1	—	—	3	—	—	4	—

We may accept the 6 cases sickening within 5 days as due to direct contact with the sick, and should probably include with them those who sickened in the second week. The possibility of reinvasion cannot, of course, be excluded; but in the case of 11 persons not residing in already invaded houses there was known contact of limited duration, and in 5 of these the interval between exposure and sickening extended into the second week.

The following details of the circumstances under which this limited contact occurred and the interval between it and sickening were ascertained.

"Contact" Cases, excluding those among Inmates of already Invaded Houses.

Nature of Contact with Primary Case.	Interval in Days between Contact and Sickening.	Remarks.
1. Playfellow, ...	6	Last contact on day of sickening of first patient.
2. Visitor, ...	10 to 8	Primary case died on second day of illness.
3. "	6	Visited primary patient on day of sickening.
4. Playfellow, ...	2	Saw patient before sickening, and was possibly infected from same source.
5. Visitor, ...	9 to 6	Visited on two occasions at interval of three days.
6. "	A few hours	Visited patient in hospital on day of own sickening.
7. "	11	At same school, and visited during illness.
8. "	3	—
9. "	2 to 1	Visited house at death of primary patient, and saw body.
10. "	14 to 7	Visited several times during illness of primary patient, which lasted seven days.
11. Playfellow and visitor during illness,	1	—

Some of these cases suggest that the period of incubation may be less than a day, but the occurrence of secondary cases in the second week, and more especially in the second month, after known exposure, raises broadly the query whether the infecting agent is present only in the persons of those attacked, and is not sometimes present in regions which disinfecting processes do not reach.

"Carrier" cases have been recognised in diphtheria, and in cerebro-spinal fever elsewhere they would also appear to have been demonstrated. We have succeeded only in a few instances in recovering the organism from the naso-pharynx, although the late occurrence of secondary cases suggests that some such method of transmission is much more frequently in operation.

Other factors may come into operation in determining the occurrence of multiple cases. We have seen reason for thinking that they may be related to conditions of air impurity. Dr. Farrar suggested, I think, the co-operation of the meningococcus with other organisms; and remembering the exceedingly active growth of round-cell tissue in the naso-pharynx in childhood, the special incidence of the disease in these years may be explained. But if the meningococcus acquires virulence by this co-operation, it would appear to take the form of an exalted activity, because mixed infections are rare. At Belvidere Hospital two only have been observed. In one case Dr. Brownlee tells me the meningococcus was found in association with the tubercle bacillus, in another with a diplococcus. Moreover, in 106 examinations made by Dr. Buchanan, our bacteriologist (71 of which were by lumbar puncture after death, and 35 were autopsies), he found the meningococcus alone in 71 cases; the pneumococcus alone in 2 cases; both were present in one case; the tubercle bacillus in 4, and a streptococcus in 1; while in 27 the results were entirely negative.

School Association.—In 38 schools single cases only occurred; in 17 schools there were two cases each, in 6 schools three cases each, and in 4 schools four cases each—*i.e.*, 27 in all had multiple cases.

In only 5 instances did it happen that 2 children in the same class were attacked. In one school both children sickened on the same day, in another the interval extended to 11 days, in a third it was 42 days, but midway in this interval a child in another standard also sickened. In a fourth school the interval was 5 days, but these cases formed the second and third of a group whose dates of sickening were respectively February 4th, March 7th and 12th (2 cases). In the fifth school the interval extended from January 7th to February 23rd.

Of the four schools in each of which 4 cases occurred, the dates of sickening in one have already been given. Of the three others, the dates of sickening in one were January 24th (2 cases—different classes), February 19th, March 11th; in another, January 17th, February 5th and 26th, and March 3rd; while in the third school they were respectively January 7th, February 23rd, March 2nd and 16th.

If few of these dates suggest direct transmission of the disease from one child to another, it must be remembered that, so far as we know it clinically, the onset is very sudden and usually prevents school attendance from the beginning.

Lateral Spread.—Were the disease possessed of a high degree of infectivity at comparatively short ranges we should expect to find not only that multiple cases in families were numerous, but that the inmates of other houses in invaded tenements were also being attacked with a fair degree of frequency. This is scarcely our experience, however, for in 24 instances only was more than one house in a tenement invaded. The intervals between these invasions were as follows :—

INTERVAL BETWEEN INVASION OF SEPARATE HOUSES IN SAME TENEMENTS.

	DAYS.							WEEKS.			MONTHS.						
Intervals, -	1	2	3	4	5	6	7	2	3	4	2	3	4	5	6	7	TOTALS.
Number of Instances,	1	...	2	...	1	1	...	3	...	4	5	2	2	...	1	1	23

In addition to these there was one instance where two houses were invaded almost simultaneously, *i.e.*, within 24 hours of each other.

Whatever view we may take of the cases occurring within an interval of not more than 2 weeks of each other, there would appear reasonable ground for assuming that those occurring at longer intervals than one month were due either to reinvasions or to the propagation of the disease by cases not coming within our clinical knowledge of it, and not, indeed, clinically recognisable as such at the present time.

Occupation.—No special incidence occurred which need be noted. The adult cases occurred mostly among the artisan section of the population.

Fatality Rate.—In such cases of the disease as were recognised the death-rate must be regarded as excessive. This of itself may suggest that modified cases occur which are not recognised, and in the classification here adopted there is a difference amounting to 20 per cent. between the death-rate of those where bacterial verification was possible and of those who on clinical grounds were regarded as suffering from the disease but where the diagnosis could not be verified in a similar manner. I have limited the statement to those only who were treated in hospital, in order that greater accuracy in the comparison may be obtained.

Cerebro-spinal Fever.—Deaths and death-rates in cases treated to a termination up to 31st March, 1907—Hospital cases only :—

	Totals.	Verified bacterially.	Not bacterially verified, but on clinical grounds regarded as Cerebro-spinal Fever.
Cases, - - -	312	175	137
Deaths, - - -	230	145	85
Death-rate per cent.,	73·7	82·9	62·0

Summary.—Such, then, are some of the more outstanding features of the disease with which we are dealing, and a few words may serve to summarise them.

The outbreak consists mostly of single cases in separate households, distributed over a wide area. It occurs chiefly in children who are related to each other with regard to date of sickening, but have, as a rule, no common centre of infection which is discoverable.

Secondary cases occur, but *contact groupings* are comparatively rare. On the other hand, on a spot map, *place groupings* without any other association are suggested.

When *multiple* cases occur, the sickenings may take place almost simultaneously, or with only a day or two between them, but they may, on the other hand, be separated by an interval of weeks.

None of the medical or nursing staffs of the hospitals have contracted it, but Dr. Archibald, one of my assistants, sickened on the sixth day after visiting a house in which the disease was present, and where the smell nauseated him.

It would therefore appear that the degree of infectivity is influenced both by the susceptibility of the person exposed, and by the conditions of exposure.

It may be that exalted activity of the naso-pharyngeal tissue in young children helps to determine the special incidence on them, or that the more prevalent habit of kissing children affords the method by which the organism is transferred to them from "carrier" cases. In any case it is suggestive that the disease is less prevalent after the age at which the activity of the naso-pharyngeal tissue ceases.

If we leave the individual and consider the conditions surrounding him—and presumably predisposing him to infection—that of air impurity, and particularly impurity from respiration, seems to play an important, if not the most important, part.

But as neither susceptible persons nor unsuitable surroundings will originate an attack, what we have to consider is by what means the disease will reach, not only unrelated members of a community, but remote rural districts.

The disease recurred in some houses after we had disinfected them, and, carefully as the details of disinfection were scrutinised, we could find no reasonable ground for thinking that anything had escaped the process save the inmates, who were not obviously ill.

Although nasal discharges were from time to time examined, the organism was recovered only three times (14 cases) from patients by swabs taken through the anterior nares. It was recovered, however, from the naso-pharynx of 4 contacts, and it is suggestive that those were inmates of the houses in which 4 and 5 cases respectively had occurred.

"Carrier" cases and spray-infection would completely explain the method of spread were the organism recoverable in a larger proportion of contacts.

At present we know little of the disease clinically except in its most malignant forms.

A. K. CHALMERS.

TABLE XXIV.

Glasgow, 1906.—CEREBRO-SPINAL Fever.—Cases and Case-rates, with with Deaths and Death-rates in each Municipal Ward.

Municipal Wards.	Cases.		Deaths.	
	Number.	Rate per Million.	Number.	Rate per Million.
1. Dalmarnock, ...	16	320	11	229
2. Calton, ...	19	527	13	361
3. Mile-end, ...	38	851	29	649
4. Whitevale, ...	14	427	12	366
5. Dennistoun, ...	4	111	5	138
6. Springburn, ...	20	462	16	370
7. Cowlairs, ...	5	160	3	96
8. Townhead, ...	15	392	9	325
9. Blackfriars, ...	9	413	8	367
10. Exchange, ...	...	...	...	...
11. Blythswood, ...	...	...	...	..
12. Broomielaw, ...	1	132	...	...
13. Anderston, ...	3	104	1	35
14. Sandyford, ...	2	80	2	80
15. Park, ...	1	40	1	40
16. Cowcaddens, ...	4	110	3	82
17. Woodside, ...	6	138	4	92
18. Hutchesontown, ...	7	175	5	125
19. Gorbals, ...	3	84	2	56
20. Kingston, ...	11	320	7	203
21. Govanhill, ...	7	206	3	88
22. Langside, ...	1	26	1	26
23. Pollokshields, ...	1	56	...	...
24. Kelvinside, ...	...	...	...	...
25. Maryhill, ...	8	201	5	126
26. Kinning Park, ...	...	...	...	...
— Institutions and Harbour, ...	10	...	3	...
CITY, ...	205	255	143	178

TYPHUS FEVER.

10 cases of typhus fever were registered in 1906, and 2 deaths occurred. All the cases were removed to hospital. The case-rate was 12 and the death-rate 2 per million living.

The death-rate for the several periods is as follows:—

1881-90,	·040	per 1,000 living.
1891-1900,	·016	,,
1900,	·023	,,
1901,	·013	,,
1902,	·012	,,
1903,	·008	,,
1904,	·006	,,
1905,	·018	,,
1906,	·002	,,

Compared with other large towns, the death-rate in the ten years, 1896-1905, and in 1906, per 100,000 living, was as follows:—

	1896-1905.	1906.
Glasgow,	**1·3**	—
Edinburgh,	0·9	—
Dundee,	1·6	1
Aberdeen,	1·1	—
Paisley,	0·8	—
Greenock,	1·1	—

(*Extract from Minute No. 23, of date 25th April, 1906.*)

TYPHUS FEVER.

One case of typhus fever was removed during the fortnight from each of the following addresses, viz.:—Springfield Place, Springburn, and Burnside Street. The husband of the patient from the latter address subsequently sickened in Baird Street Reception-house.

There is no traceable association between the cases, or with those occurring in February last; indeed, the essentially sporadic character of the cases of typhus fever which are now recognised is strongly suggestive of an undercurrent of attacks of the disease, which keeps up the connection between the discovered cases.

In connection with the Springburn case three members of another family living at the same address sickened, almost simultaneously, about a month previously, but the clinical histories after their removal to hospital were suggestive of enteric fever.

In July a case of typhus fever occurred in Hutchesontown in a boy, J. G. aged 13. The lad sickened on July 2nd, and was removed to hospital on the 7th as enteric fever. On the 31st a brother, aged 12, was also removed to hospital as enteric fever, the date of sickening in his case being 22nd July. On August 2nd the mother, S. G., aged 35, sickened, and she too was removed to hospital as suffering from enteric fever. On a review of the cases in hospital it was considered that all three were typhus fever.

The husband is a labourer, and the house is a one apartment, ticketed for 4, but occupied by 4 adults and 3 children.

Beyond the presence of overcrowding nothing was discovered which threw any light on the origin of these cases.

TABLE XXV.

Glasgow, 1906.—TYPHUS Fever.—Cases and Case-rates and Deaths and Death-rates in each Municipal Ward, with corresponding rates for 1903-05.

Municipal Wards.	Death-rate per Million.			1906. Cases.		1906. Deaths.	
	1903.	1904.	1905.	No.	Rate per Million	No.	Rate per Million.
1. Dalmarnock, ...	...	...	101	...	...	...	...
2. Calton, ...	51	26	27	...	...	...	...
3. Mile-end, ...	...	23	46	1	22	1	22
4. Whitevale, ...	...	...	...	...	...	...	...
5. Dennistoun, ...	...	...	28	...	...	...	...
6. Springburn, ...	24	..	24	2	46	...	...
7. Cowlairs, ...	...	33	...	1	32	...	...
8. Townhead, ...	...	...	...	...	...	...	...
9. Blackfriars, ...	...	44	...	...	...	...	...
10. Exchange, ...	...	...	...	...	...	...	...
11. Blythswood, ...	...	...	...	...	...	...	...
12. Broomielaw, ...	...	...	...	...	...	...	...
13. Anderston, ...	...	...	34	...	...	...	...
14. Sandyford, ...	...	...	...	...	...	...	...
15. Park, ...	...	...	...	...	...	...	...
16. Cowcaddens, ...	...	...	...	2	55	..	...
17. Woodside, ...	...	...	...	1	23	...	...
18. Hutchesontown, ...	24	...	...	3	75	...	...
19. Gorbals, ...	27	27	...	...	...	...	...
20. Kingston, ...	...	...	87	...	...	...	...
21. Govanhill, ...	...	...	...	...	...	...	...
22. Langside, ...	34	...	...	...	...	...	...
23. Pollokshields, ...	...	...	...	...	...	...	...
24. Kelvinside, ...	...	...	...	...	...	...	...
25. Maryhill, ...	...	...	...	...	...	1	25
26. Kinning Park, ...	...	...	...	...	...	...	...
— Institutions and Harbour, ...	...	...	...	...	...	...	...
CITY, ...	8	6	18	10	12	2	2

SCARLET FEVER.

The number of cases of scarlet fever notified during 1906 was 1,382, of which 1214, or 87·8 per cent., were treated in hospital. The deaths numbered 50, representing a death-rate of 62 per million living. The case-rate for the City was 1,721 per million living.

For several periods the death-rate has been as follows:—

Average of 10 years,	1881-90,	·490 per 1,000 living.
„ 10 „	1891-1900,	·295 „
	1900,	·278 „
	1901,	·172 „
	1902,	·145 „
	1903,	·105 „
	1904,	·088 „
	1905,	·045 „
	1906,	·062 „

The death-rate per 100,000 from the disease in several large towns for several periods is as follows:—

	Death-rate per 100,000.	
	1896-1905.	1906.
Glasgow,	**18**	**6**
Edinburgh,	16	11
Dundee,	9	12
Aberdeen,	15	4
Paisley,	21	6
Greenock,	30	9
London,	12	11
Liverpool,	29	25
Manchester,	19	18
Birmingham,	21	10

The number of cases registered, with the proportion treated in hospital, the proportion of deaths occurring there, and the case-mortality for each year since 1891, are stated in the following Table:—

TABLE XXVI.—SCARLET FEVER.

Year.	Cases.			Deaths.			
	Number.	Rate per Million.	Per cent. treated in Hospital.	Number.	Rate per Million.	Per cent. occurring in Hospital.	Case-mortality. per cent.
1891	3,045	5,383	62·8	201	355	69·2	6·6
1892	4,844	7,257	62·7	301	451	63·5	6·2
1893	4,037	5,973	70·9	267	396	68·9	6·6
1894	3,930	5,701	73·7	210	307	70·0	5·3
1895	3,502	5,051	75·5	184	265	76·6	5·3
1896	2,728	3,879	78·9	143	203	82·5	5·2
1897	2,955	4,130	75·5	130	182	77·7	4·4
1898	3,620	4,947	82·3	190	260	76·3	5·2
1899	4,728	6,327	83·8	205	274	71·7	4·3
1900	4,162	5,508	85·7	210	278	77·6	5·0
1901	3,317	4,355	84·3	131	172	80·1	3·9
1902	2,509	3,229	85·3	113	145	77·9	4·5
1903	2,031	2,597	85·3	82	105	79·2	4·0
1904	1,573	2,003	83·2	69	88	85·5	4·4
1905	970	1,235	87·1	35	45	97·1	3·6
1906	1,382	1,721	87·8	50	62	84·0	3·6

In the following Table the Ward incidence of the cases and deaths are shown, with corresponding death-rates for 1903-5:—

TABLE XXVII.

GLASGOW, 1906.—SCARLET FEVER.—CASES AND CASE-RATES, WITH DEATHS AND DEATH-RATES IN EACH MUNICIPAL WARD, ALSO DEATH-RATES FOR 1903-5.

MUNICIPAL WARDS.	Death-rate per Million.			Cases.	1906.	Deaths.	
	1903.	1904.	1905.	Number.	Rate per Million.	Number.	Rate per Million.
1. Dalmarnock, ...	59	59	61	73	1,460	7	140
2. Calton, ...	51	53	190	38	1,054	2	55
3. Mile-end, ...	116	139	69	42	940	1	22
4. Whitevale, ...	237	60	91	69	2,104	7	213
5. Dennistoun, ...	308	88	...	86	2,379	3	83
6. Springburn, ...	73	118	48	78	1,802	2	46
7. Cowlairs, ...	67	165	...	83	2,663	...	...
8. Townhead, ...	50	51	...	44	1,150	4	105
9. Blackfriars, ...	87	133	45	24	1,100	2	92
10. Exchange, ...	...	...	...	2	962	...	...
11. Blythswood, ...	...	...	...	2	610	...	...
12. Broomielaw, ...	120	...	...	10	1,323	...	...
13. Anderston, ...	136	172	...	38	1,320	...	...
14. Sandyford, ...	38	39	78	18	719	1	40
15. Park, ...	80	79	80	33	1,327	1	40
16. Cowcaddens, ...	...	52	...	30	823	...	...
17. Woodside, ...	131	133	...	71	1,634	1	23
18. Hutchesontown, ...	119	48	99	89	2,229	2	50
19. Gorbals, ...	192	164	...	65	1,812	1	28
20. Kingston, ...	86	114	87	50	1,453	1	29
21. Govanhill, ...	296	118	...	99	2,913	4	118
22. Langside, ...	67	61	28	99	2,551	2	52
23. Pollokshields, ...	118	...	56	38	2,139	...	...
24. Kelvinside, ...	...	101	...	25	1,147	...	...
25. Maryhill, ...	55	27	26	125	3,138	8	201
26. Kinning Park, ...	...	...	...	8	590	...	...
— Institutions and Harbour,	...	...	...	43	...	1	...
CITY, ...	105	88	45	1,382	1,721	50	62

Glasgow.—SCARLET Fever.

Year.	Treated at Home.			Treated in Hospital.		
	Cases.	Deaths.	Case-mortality per cent.	Cases.	Deaths.	Case-mortality per cent.
1891	1,133	62	5·5	1,912	139	7·3
1892	1,807	110	6·1	3,037	191	6·3
1893	1,172	83	7·1	2,855	184	6·4
1894	1,034	63	6·1	2,896	147	5·1
1895	858	43	5·0	2,644	141	5·3
1896	576	25	4·3	2,152	118	5·5
1897	724	29	4·0	2,231	101	4·5
1898	640	45	7·0	2,980	145	4·9
1899	764	58	7·6	3,964	147	3·7
1900	594	47	7·9	3,568	163	4·6
1901	522	26	5·0	2,795	105	3·8
1902	369	25	6·8	2,140	88	4·1
1903	297	17	5·7	1,734	65	3·8
1904	265	13	4·9	1,308	56	4·3
1905	125	1	0·8	845	34	4·0
1906	168	8	4·8	1,214	42	3·5

Return Cases.

25 cases occurred in 17 families subsequent to the return of earlier cases from hospital. This represents a rate of 2 per cent. on the dismissals. The average residence in hospital of the earlier cases was 55 days, a decrease of 3 on last year. The maximum was 82, and the minimum 44 days.

The following shows the distribution of the cases throughout the three weeks subsequent to dismissal of the first case :—

Glasgow, 1906.—Return Cases.—Days Elapsing between Return of Earlier and Sickening of Subsequent Cases.

First Week.		Second Week.		Third Week.	
Days Elapsing.	No. Cases.	Days Elapsing.	No. Cases.	Days Elapsing.	No. Cases.
1	1	8	4	15	2
2	...	9	1	16	1
3	1	10	...	17	...
4	1	11	...	18	1
5	2	12	2	19	...
6	1	13	2	20	1
7	1	14	1	21 and over	3
	7		10		8

Glasgow, 1906.—SCARLET Fever.—SECONDARY Cases occurring in Households after Disinfection.

First Week.		Second Week.		Third Week.	
Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.	Days Elapsing.	No. of Cases.
1	6	8	...	15	...
2	8	9	3	16	...
3	6	10	4	17	...
4	4	11	2	18	...
5	1	12	...	19	1
6	3	13	1	20	...
7	1	14	...	21	2
	29		10		3

Effect of School Holidays on the occurrence of Cases.

A Table has been introduced here, similar to that already presented in dealing with diphtheria, in which the number of cases occurring during the school holidays is compared with a corresponding number of days immediately preceding and following. The increase among the children of school age subsequent to the reopening of the schools in August is marked:—

Glasgow, 1906.—SCARLET Fever.—CASES Notified between May 21st and Oct. 8th, 1906, Arranged to Show the Influence of School Holidays on Case-incidence.

Periods.	Cases Notified.						Increase or Decrease.						Total.
	Age, 0—3.		Age, 3—13.		Age, 13 and up.		Age, 0—3.		Age, 3—13.		Age, 13 and up.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1st. May 21 to July 6,	9	3	38	55	16	11	...	...	...	...	...	...	132
2nd. July 6 to Aug. 22,	13	10	46	40	5	10	+ 4	+ 7	+ 8	− 15	− 11	− 1	124
							+ 11		− 7		− 12		
3rd. Aug. 22 to Oct. 8,	16	17	90	132	19	19	+ 3	+ 7	+ 44	+ 92	+ 14	+ 9	293
							+ 10		+ 136		+ 23		
	38	30	174	227	40	40							
	68		401		80								549

MEASLES.

10,402 cases were registered in 1906, as compared with 12,329 in 1905, and 395 deaths occurred, representing a death-rate of 0·492 per 1,000 of the estimated population living. 27·3 per cent. of the total deaths occurred in hospital, and 95·7 per cent. were under 5 years of age.

For several periods the death-rate has been as follows:—

1881-90, ...	·680 per 1,000 living.
1891-1900, ...	·784 „
1900, ...	·610 „
1901, ...	·655 „
1902, ...	·342 „
1903, ...	·442 „
1904, ...	·418 „
1905, ...	·701 „
1906, ...	·492 „

The following Table shows the death-rate per 100,000 for several large towns for the ten years 1896-1905, and for 1906:—

	1896-1905.	1906.
Glasgow, ...	**70**	**48**
Edinburgh, ...	42	38
Dundee, ...	40	40
Aberdeen, ...	39	43
Paisley, ...	40	46
Greenock, ...	55	13
London, ...	51	41
Liverpool, ...	48	78
Manchester, ...	73	75
Birmingham, ...	45	40

The total deaths, the number occurring in hospital, and their proportion to the total deaths, for several years, are as follows:—

TABLE XXVIII.

MEASLES.

Year.	Deaths.		Death-rate per Million.	Percentage of Total Deaths occurring in Hospital.
	Total Number.	Number occurring in Hospital.		
1895	329	46	475	14·0
1896	819	126	1,164	15·4
1897	586	73	819	12·5
1898	539	89	737	16·5
1899	544	95	828	17·5
1900	461	81	610	17·6
1901	499	89	655	17·8
1902	266	33	342	12·4
1903	346	73	442	21·1
1904	328	54	418	16·5
1905	551	159	701	28·9
1906	395	108	492	27·3

In Table XXIX. the number of deaths and the death-rate in each ward for 1906 is stated, together with the corresponding rates for 1903-5.

TABLE XXIX.

GLASGOW, 1906.—MEASLES.—DEATHS AND DEATH-RATES IN EACH MUNICIPAL WARD, WITH CORRESPONDING RATES FOR 1903-5.

MUNICIPAL WARDS.	Death-rate per Million.			1906.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	610	178	1,093	24	480
2. Calton, ...	821	342	1,057	19	527
3. Mile-end, ...	788	440	1,294	29	649
4. Whitevale, ...	533	363	730	15	457
5. Dennistoun, ...	246	88	340	8	221
6. Springburn, ...	484	1,324	808	26	601
7. Cowlairs, ...	101	791	646	26	834
8. Townhead, ...	625	407	618	18	470
9. Blackfriars, ...	520	178	904	7	321
10. Exchange, ...	...	447	...	1	481
11. Blythswood, ...	278	...	300	...	...
12. Broomielaw, ...	720	494	906	10	1,323
13. Anderston, ...	102	446	777	14	486
14. Sandyford, ...	302	501	818	9	360
15. Park, ...	80	159	160	5	201
16. Cowcaddens, ...	776	733	428	48	1,317
17. Woodside, ...	394	399	452	18	414
18. Hutchesontown, ...	477	555	1,260	36	902
19. Gorbals, ...	547	164	693	13	362
20. Kingston, ...	662	315	926	21	610
21. Govanhill, ...	237	295	711	12	353
22. Langside, ...	67	184	...	2	52
23. Pollokshields, ...	235	...	56	1	56
24. Kelvinside, ...	...	101	48	1	46
25. Maryhill, ...	165	373	667	14	351
26. Kinning Park, ...	...	...	...	2	148
— Institutions and Harbour, ...	...	...	...	16	...
CITY, ...	442	418	701	395	492

Sectional Closing of Schools.—In a certain number of cases it was deemed desirable to recommend the closing of Infant Departments on the occurrence of measles among the scholars in attendance.

In January this occurred in 4 schools; in February in 7; in March in 3; in April, 1; and in December, 1. In each case the affected department was closed for a period of three weeks.

WHOOPING-COUGH.

The deaths from whooping-cough during 1906 numbered 400, which is equal to a death-rate of 0·498 per 1,000 living.

The annual death-rate during several periods is shown in the following Table:—

1881-90,	...	1·150 per 1,000 living.
1891-1900,	...	·879 ,,
1900.	...	·933 ,,
1901,	...	1·116 ,,
1902,	...	·600 ,,
1903,	...	·772 ,,
1904,	...	·731 ,,
1905,	...	·791 ,,
1906,	...	·498 ,,

In comparison with other large towns, the rate per 100,000 for the ten years 1896-1905 and 1906 was as follows:—

	1896-1905.	1906.
Glasgow,	**86**	**49**
Edinburgh,	51	11
Dundee,	50	39
Aberdeen,	51	39
Paisley,	67	9
Greenock,	58	26
London,	41	26
Liverpool,	49	48
Manchester,	47	31
Birmingham,	48	45

The total deaths, deaths occurring in hospital, and the proportion these form to the total deaths for each year since 1895, are shown in the following Table:—

TABLE XXX.

WHOOPING-COUGH.

Year.	Deaths.		Death-rate per Million.	Percentage of Deaths occurring in Hospital.
	Total Number.	Number occurring in Hospital.		
1895	614	48	886	7·8
1896	643	68	914	10·6
1897	842	80	1,177	9·5
1898	703	86	961	12·2
1899	323	23	432	7·1
1900	694	67	918	9·7
1901	850	72	1,116	8·5
1902	466	59	600	12·7
1903	604	71	772	11·7
1904	574	96	731	16 7
1905	621	100	791	16·1
1906	400	94	498	23·5

The number of deaths occurring at several age-periods is already stated in Table V. at page 31.

The Ward distribution of the disease is shown in the following Table:—

TABLE XXXI.

GLASGOW, 1906.—WHOOPING-COUGH.—DEATHS AND DEATH-RATES in each MUNICIPAL WARD, with Corresponding Rates for 1903-1905.

MUNICIPAL WARDS.	Death-rate per Million.			1906.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	1,121	869	1,316	29	580
2. Calton, ...	1,130	1,080	759	16	444
3. Mile-end, ...	1,112	1,019	924	35	784
4. Whitevale. .	681	816	1,247	24	732
5. Dennistoun, ...	646	730	340	7	194
6. Springburn, ...	508	1,111	1,354	8	185
7. Cowlairs, ...	1,041	659	776	6	192
8. Townhead, ...	975	457	798	12	313
9. Blackfriars, ...	606	845	1,040	12	550
10. Exchange, ...	...	...	945	...	...
11. Blythswood, ...	278	574	...	...	...
12. Broomielaw, ...	1,319	989	1,424	2	265
13. Anderston, ...	713	926	913	23	799
14. Sandyford, ...	680	771	1,052	6	240
15. Park, ...	160	119	120	4	161
16. Cowcaddens, ...	1,577	890	1,125	42	1,152
17. Woodside, ...	832	599	543	44	1,013
18. Hutchesontown, ...	905	1,785	1,210	34	851
19. Gorbals, ...	602	629	665	15	418
20. Kingston, ...	690	830	492	16	465
21. Govanhill.... ...	651	679	918	24	706
22. Langside, ...	304	31	194	3	77
23. Pollokshields, ...	59	...	112	1	56
24. Kelvinside, ..	...	151	242	1	46
25. Maryhill, ...	659	266	744	23	577
26. Kinning Park, ...	...	...	...	12	886
— Institutions and Harbour, ...	...	...	...	1	...
CITY, ...	772	731	791	400	498

DIARRHŒAL DISEASES.

The deaths registered as due to diarrhœal diseases in 1906 numbered 749, representing a death-rate of 933 per million living.

For several periods the diarrhœal rate has been—

1881-90, ...	·700	per 1,000 living.
1891-1900, ...	·843	„
1900, ...	·744	„
1901, ...	1·130	„
1902, ...	·642	„
1903, ...	·834	„
1904, ...	·898	„
1905, ...	·741	„
1906, ...	·933	„

In the report for 1900 attention was drawn to the inclusion of several forms of gastro-intestinal catarrh among the diarrhœal diseases—an addition which, to a large extent, affects the value of decennial comparisons.

On the basis of the Registrar-General's returns, the death-rate of Glasgow may be compared with several other towns:—

	Death-rate per 100,000.* 1896-1905.	1906.
Glasgow, ...	**50**	**39**
Edinburgh, ...	34	31
Dundee, ...	76	75
Aberdeen, ...	43	19
Paisley, ...	58	40
Greenock, ...	63	50
London, ...	81	94
Liverpool, ...	157	179
Manchester, ...	134	153
Birmingham, ...	133	158

* Compiled from Registrar-General's Annual Report.

AGE-INCIDENCE OF DIARRHŒAL DEATHS.

The tendency of the disease towards increased prevalence in the third quarter of the year and its special incidence at ages 1-5 at this period is illustrated by the figures in the first of the subjoined Tables, while the special influence of a maintained high level of mean temperature during the summer months is illustrated by the excessive fatality during August. The average range of temperature during July seems largely to affect the prevalence of the disease in the following month.

TABLE XXXII.

GLASGOW, 1906.—AGE-INCIDENCE of DIARRHŒAL DEATHS.

1906.	Under 1 year.	1-5.	5-15.	15-20.	20-25.	25-60.	60 years and upwards.
1st Quarter, ...	51	19	2	...	2	7	3
2nd „ ...	58	22	5	1	...	10	10
3rd „ ...	246	78	3	1	3	18	11
4th „ ...	120	54	2	2	1	13	7
Totals, ...	475	173	12	4	6	48	31

The relation of mean temperature to the autumnal prevalence of the disease is as follows:—

	1902.		1903.		1904.		1905.		1906.	
	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.	Mean Temp. in Shade.	Deaths under 1 year.
June, - -	53°·5	12	54°·6	31	54°·7	22	56°·9	17	57°·0	26
July, - -	54°·9	26	56°·2	41	57°·0	25	59°·3	31	56°·5	33
August, - -	54°·3	23	54°·6	97	56°·3	131	55°·8	101	57°·9	73
September, -	53°·5	42	52°·8	73	53°·2	91	52°·7	52	54°·4	140

The daily mean temperature between August 26th and September 4th was as follows:—

26th August, ...	55°·8	31st August, ...	62°·9
27th ,, ...	57°·4	1st September, ...	68°·7
28th ,, ...	64°·4	2nd ,, ...	72°·1
29th ,, ...	64°·6	3rd ,, ...	60°·5
30th ,, ...	59°·7	4th ,, ...	54°·2

TABLE XXXIII.

Glasgow, 1906.—DIARRHŒAL Diseases.—Deaths and Death-rates in each Municipal Ward, with Corresponding Rates for 1903-5.

Municipal Ward.	Death-rate per Million.			1906.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	1,612	1,698	1,133	76	1,520
2. Calton, ...	1,669	1,686	949	51	1,414
3. Mile-end, ...	1,413	1,413	1,016	69	1,545
4. Whitevale, ...	770	1,390	730	45	1,372
5. Dennistoun, ...	369	555	255	21	581
6. Springburn, ...	943	686	879	42	971
7. Cowlairs, ...	571	890	517	31	995
8. Townhead, ...	675	813	695	40	1,045
9. Blackfriars, ...	1,299	1,245	768	25	1,146
10. Exchange, ...	448	...	...	1	481
11. Blythswood, ...	556	861	601	1	305
12. Broomielaw, ...	1,919	1,360	1,165	13	1,720
13. Anderston, ...	950	1,476	1,555	39	1,355
14. Sandyford, ...	944	694	818	22	879
15. Park, ...	361	238	120	4	161
16. Cowcaddens, ...	901	1,204	1,178	36	987
17. Woodside, ...	504	577	475	21	483
18. Hutchesontown, ...	762	844	667	34	851
19. Gorbals, ...	547	492	471	34	948
20. Kingston, ...	978	715	492	36	1,046
21. Govanhill, ...	444	708	658	20	588
22. Langside, ...	304	276	167	11	283
23. Pollokshields, ...	176	226	168	1	56
24. Kelvinside, ...	212	201	242	...	...
25. Maryhill, ...	550	878	795	36	904
26. Kinning Park, ...	...	...	...	14	1,033
— Institutions and Harbour,	...	...	...	26	...
CITY, ...	834	898	741	749	933

TUBERCULOUS DISEASES.

PHTHISIS.

In 1906, 1,215 deaths were registered as due to phthisis, representing a death-rate of 1·513 per 1,000 living.

For several periods the death-rate has been as follows:—

1881-90, ...	2·680	per 1,000 living.
1891-1900, ...	2·015	„
1900, ...	1·876	„
1901, ...	1·764	„
1902, ...	1·672	„
1903, ...	1·611	„
1904, ...	1·644	„
1905, ...	1·437	„
1906, ...	1·513	„

In several towns in Scotland the rate for the ten years, 1896-1905, and for 1906, has been—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN SCOTCH TOWNS FOR THE TEN YEARS, 1896-1905, AND FOR 1906.

	1896-1905.	1906.		1896-1905.	1906.
Glasgow, ...	**185**	**156**	Aberdeen, ...	156	122
Edinburgh, ...	171	119	Paisley, ...	164	128
Dundee, ...	195	169	Greenock, ...	171	132

In the following Table the deaths and death-rate for each Ward is shown for 1906, together with corresponding rates for 1903-5:—

TABLE XXXIV.

Glasgow, 1906.—PHTHISIS.—Deaths and Death-rates in each Municipal Ward, with Corresponding Rates for 1903-05.

Municipal Wards.	Death-rates per Million.			1906.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	1,357	1,500	1,214	68	1,360
2. Calton.	2,156	2,054	1,790	70	1,941
3. Mile-end, ...	1,992	1,714	1,686	53	1,187
4. Whitevale, ...	1,865	1,269	1,642	51	1,555
5. Dennistoun, ...	984	934	1,161	34	940
6. Springburn, ...	1,499	1,797	1,283	80	1,849
7. Cowlairs, ...	1,141	1,022	1,131	33	1,059
8. Townhead, ...	1,350	1,677	1,107	50	1,307
9. Blackfriars, ...	2,296	2.356	1,944	34	1,558
10. Exchange, ...	1,792	1,340	945	3	1,443
11. Blythswood, ...	2,225	1,722	...	1	305
12. Broomielaw, ...	2,639	1,360	1,491	12	1,588
13. Anderston, ...	1,460	1,613	1,048	46	1,598
14. Sandyford, ...	1,057	1,118	1,441	35	1,399
15. Park, ...	721	555	680	17	684
16. Cowcaddens, ...	1,652	1,676	1,473	69	1,893
17. Woodside, ...	1,073	1,243	995	52	1,197
18. Hutchesontown, ...	1,715	1,905	1,358	57	1,427
19. Gorbals, ...	1,998	1,559	1,137	43	1,199
20. Kingston, ...	2,014	1,688	1,360	46	1,337
21. Govanhill, ...	1,154	1,446	1,126	39	1,148
22. Langside, ...	709	612	583	24	619
23. Pollokshields, ...	353	451	336	10	563
24. Kelvinside, ...	530	101	387	6	275
25. Maryhill, ...	1,017	1,118	1,026	51	1,280
26. Kinning Park, ...	...	...	...	21	1,550
— Institutions and Harbour, ...	...	...	...	210	...
CITY, ...	1,611	1,644	1,437	1,215	1,513

The reduction which has taken place in the phthisis death-rate in Glasgow during the whole period of registration is shown in the following Table :—

DEATH-RATE FROM PHTHISIS IN THE SEVERAL QUINQUENNIA SINCE THE BEGINNING OF REGISTRATION.

Years.	Death-rate per Million.	Years.	Death-rate per Million.
1855-9,	3,742	1885-9,	2,601
1860-4,	4,094	1890-4,	2,315
1865-9,	3,972	1895-9,	2,014
1870-4,	3,908	1900-4,	1,712
1875-9,	3,644	1905,	1,437
1880-4,	3,140	1906,	1,513

OTHER FORMS OF TUBERCULOUS DISEASE.

The reduction just shown in the death-rate from phthisis is not maintained, however, in the other forms of tuberculous disease, and, in order to indicate the contrast, a comparison may be based on the Registrar-General's classification.

GLASGOW, 1883-1906.—DEATH-RATES PER MILLION FROM TUBERCULOUS DISEASES FOR THE PERIODS FROM 1883-88, 1889-94, 1895-1900, AND 1901-1906.

<table>
<tr><th rowspan="2"></th><th colspan="8">Average Annual Death-rate.</th><th rowspan="2">Per cent. increase or decrease in 24 years.</th></tr>
<tr><th colspan="2">1883-88.</th><th colspan="2">1889-94.</th><th colspan="2">1895-1900.</th><th colspan="2">1901-1906.</th></tr>
<tr><td>I. Phthisis,</td><td colspan="2">2,849</td><td colspan="2">2,319</td><td colspan="2">2,008</td><td colspan="2">1,421</td><td>– 50%</td></tr>
<tr><td>II. Tubercular Meningitis,</td><td>405</td><td rowspan="2">1,090</td><td>387</td><td rowspan="2">884</td><td>341</td><td rowspan="2">845</td><td>319</td><td rowspan="2">1,101</td><td rowspan="2">+ 1%</td></tr>
<tr><td>III. Other forms of Tuberculosis,</td><td>685</td><td>497</td><td>504</td><td>782</td></tr>
<tr><td>All Tuberculous Diseases,</td><td colspan="2">3,939</td><td colspan="2">3,203</td><td colspan="2">2,853</td><td colspan="2">2,522</td><td></td></tr>
</table>

In 1897, in considering the distribution of tuberculous disease in Glasgow, it was possible to compare the movement in phthisis and in other forms of tuberculosis on the basis of a uniform classification which had been introduced by the Registrar-General in 1883. On bringing the comparison down to the year 1895, it could be shown that in the twelve years both groups had been reduced by 19 per cent.* On extending this comparison to 1906, the reduction in phthisis now amounts to 50 per cent., while an increase of 1 per cent. has occurred in the death-rate from the other forms of tubercle. This group includes both meningeal and abdominal tubercle, and the preceding Table shows that, while the meningeal form has been reduced from 405 to 319 per million, the rate for the "other forms" has increased from 685 to 782. This increase is confined to the years 1901-6.

In a recent pamphlet,† Dr. John Thomson, of Edinburgh, has drawn attention to the greater incidence of abdominal tuberculosis in children in this country compared with America, and quotes Dr. George S. Middleton, Physician to the Sick Children's Hospital, Glasgow, as to the proportion of children suffering from this form of the disease treated therein during the years 1897-1906. Of over 2,800 children admitted in the years 1897-1900, just over 4 per cent. so suffered, while this percentage rose in the years 1904-5-6 to nearly 5 in a total of 3,141 admissions.

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* See pamphlet on "The Distribution of Tuberculous Diseases in Glasgow." 1897.

† "The Relative Prevalence of Abdominal Tuberculosis in Children in Great Britain and America." By John Thomson, M.D., Physician to the Royal Hospital for Sick Children, Edinburgh.

Greater precision in the methods of recognising abdominal tubercle may partly explain the increase in the registered causes of death, but this is scarcely consistent with the decreasing rate which obtained between 1887 and 1894, and the rise which has occurred since this period must be held as suggesting the need for more detailed supervision over all sources of food tuberculosis.

The following Table contains the deaths and death-rates of the several forms of tuberculous diseases taken from the Registrar-General's classification:—

TABLE XXXV.

Glasgow.—TUBERCULOUS Diseases.—Deaths and Death-rates per Million for the Thirteen Years, 1894-1906.

Year.	Deaths.					Death-rate per Million.				
	Tubercular Meningitis.	Other Forms of Tuberculosis.	Tuberculous Diseases (Not Phthisis).	Phthisis.	All Tuberculous Diseases.	Tubercular Meningitis.	Other Forms of Tuberculosis.	Other Tuberculous Diseases (Not Phthisis).	Phthisis.	All Tuberculous Diseases.
1894	229	354	583	1,560	2,143	332	515	847	2,271	3,118
1895	229	398	627	1,584	2,211	329	572	901	2,276	3,177
1896	246	327	573	1,342	1,915	349	464	813	1,903	2,716
1897	260	334	594	1,419	2,013	364	467	831	1,985	2,816
1898	254	335	589	1,404	1,993	351	462	813	1,938	2,751
1899	235	401	636	1,444	2,080	320	546	866	1,968	2,834
1900	247	381	628	1,472	2,100	332	512	844	1,979	2,823
1901	237	446	683	1,418	2,101	310	583	893	1,855	2,748
1902	244	403	647	1,329	1,976	315	519	834	1,714	2,548
1903	240	553	793	1,175	1,968	307	707	1,014	1,502	2,516
1904	260	685	945	1,119	2,064	326	858	1,184	1,402	2,586
1905	237	836	1,073	818	1,891	293	1,032	1,325	1,010	2,335
1906	307	829	1.136	871	2,007	367	992	1,359	1,042	2,401

The deaths and death-rates from disease of the tuberculous class, other than phthisis, for the several Wards are shown in the following Table, with corresponding rates for 1903-5:—

TABLE XXXVI.

GLASGOW, 1906.—TUBERCULOUS DISEASES other than PHTHISIS.—DEATHS AND DEATH-RATES IN EACH MUNICIPAL WARD, WITH CORRESPONDING RATES FOR 1903-5.

MUNICIPAL WARDS.	Death-rates per Million.			1906.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	1,475	1,382	1,619	72	1,440
2. Calton, ...	1,540	1,501	1,437	40	1,109
3. Mile-end, ...	1,598	1,853	1,178	66	1,478
4. Whitevale, ...	1,658	1,481	1,430	51	1,555
5. Dennistoun, ...	1,261	1,080	849	35	968
6. Springburn, ...	1,523	1,348	784	78	1,802
7. Cowlairs, ...	1,041	1,220	1,261	46	1,476
8. Townhead, ...	1,426	1,575	1,261	47	1,228
9. Blackfriars, ...	1,213	800	994	26	1,192
10. Exchange, ...	448	1,340	945	...	...
11. Blythswood, ...	556	574	901	...	...
12. Broomielaw, ...	1,199	618	647	7	926
13. Anderston, ...	1,426	1,373	1,183	41	1,424
14. Sandyford, ...	831	887	935	37	1,478
15. Park, ...	281	357	360	9	362
16. Cowcaddens, ...	1,401	1,571	1,312	38	1,042
17. Woodside, ...	986	1,198	724	29	667
18. Hutchesontown, ...	1,525	1,543	1,235	55	1,377
19. Gorbals, ...	876	903	1,275	38	1,059
20. Kingston, ...	892	1,516	1,041	41	1,192
21. Govanhill, ...	1,095	915	1,303	38	1,118
22. Langside, ...	405	551	361	22	567
23. Pollokshields, ...	530	395	504	3	169
24. Kelvinside, ...	265	...	436	4	184
25. Maryhill, ...	989	1,145	872	37	926
26. Kinning Park, ...	...	...	...	24	1,771
— Institutions and Harbour, ...	...	...	...	28	...
CITY, ...	1,196	1,209	1,073	912	1,135

NOTIFICATION OF PHTHISIS.

Information was received during the year of 336 cases of Phthisis which had come under notice at the following Institutions:—

TABLE XXXVII.

Glasgow, 1906.—NUMBER of Cases admitted to Parish Hospitals, and notified as attending Dispensaries attached to the Royal Hospital for Sick Children, Western Infirmary, and Royal Infirmary during the Year.

Age.	Sick Children's Hospital.		Western Infirmary.		Royal Infirmary.		Eastern District Hospital.		Western District Hospital.		Stobhill.		Barnhill.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1 — 4, ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
5 - 14, ...	2	1	1	...	4	...	...	...	...	...	...	1	...	...	7	2
15 — 19, ...	...	...	1		2	5	...	...	...	...	2	2	1	1	6	8
20 — 24, ...	...	...	...	...	7	3	...	...	...	...	8	4	...	...	15	7
25 — 29, ...	...	...	...	1	6	3	1	...	...	...	9	7	1	1	17	12
30 — 34, ...	...	...	...	1	6	4	2	...	1	...	7	4	...	1	16	10
35 — 39, ...	...	...	...	...	3	2	1	...	...	...	2	6	...	...	6	8
40 — 44, ...	...	...	...	...	4	2	...	...	...	...	3	4	3	...	10	6
45 — 49, ...	...	...	...	...	3	1	...	...	1	...	2	1	...	...	6	2
50 — 54, ...	...	...	...	...	3	...	...	...	...	...	7	...	1	...	11	...
55 — 59, ...	...	...	...	1	1	3	...	...	...	...	...	...	1	...	2	4
60 and upwards,	...	...	...	...	2	...	...	...	...	...	3	2	...	...	5	2
Not stated. ...	...	...	...	1	1	2	7	3	5	1	49	24	66	14	128	45
	2	1	2	4	42	25	11	3	7	1	93	55	73	17	230	106
	3		6		67		14		8		148		90		336	

Bellefield Sanatorium—Results of Treatment.

The results of the treatment at Bellefield Sanatorium, as shown in 123 Glasgow patients discharged up till 16th March, 1907, are contained in the following tabulation:—

Present Condition of 123 Glasgow Patients Discharged from Bellefield Sanatorium up to 16th March, 1907.

	Length of time out of Bellefield.					Total.
	Under 3 Months.	Under 6 Months.	Under 9 Months.	Under 12 Months.	Over 12 Months.	
At work, - -	4	9	6	6	16	41
Not at work. - -	3	2	1	2	9	17
Gone to country, - -	5	3	—	5	15	28
Gone abroad, - -	—	—	—	—	1	1
Dead, - - - - -	2	1	1	7	22	33
No information, - -	2	—	—	—	1	3
Total, - -	16	15	8	20	64	123

ADMINISTRATIVE CONTROL OF PULMONARY PHTHISIS.

The Corporation having in 1906 approved of the principle of the compulsory notification of phthisis, the following notes were prepared on the application to the disease of Part III. of the Public Health (Scotland) Act, 1897:—

NOTES BY THE MEDICAL OFFICER OF HEALTH ON THE APPLICATION TO CONSUMPTION OF THE PUBLIC HEALTH (SCOTLAND) ACT, 1897, PART III.

General Prevention and Mitigation of Disease.

The Corporation, in approving of the principle of compulsory notification of Consumption, remitted to the Committee on Tuberculosis to consider whether this could be more advantageously done by including the disease under the Public Health Act or by special enactment, and the object of the following notes is to consider the application to Consumption of the clauses in Part III. of the Public Health Act, which deals with the prevention and mitigation of disease. It will simplify this consideration if the observations are made on the several sections in the order of their arrangement in the existing Act.

Section 45.—Power to inspect Premises where Infectious Disease is supposed to exist.

45. The medical officer may, at reasonable times, in the day-time, enter and inspect any house or premises in the district in which he has reason to believe that any infectious disease exists, or has recently existed, and the medical officer may examine any person found on such premises with a view to ascertaining whether such person is suffering, or has recently suffered, from any infectious disease; and, in the event of admission, inspection, or examination being refused, the sheriff, or magistrate, or justice may, on reasonable cause shown, grant warrant authorising such entry, inspection, and examination, and on such warrant being obtained and exhibited, any person refusing to admit the medical officer to such house or premises, or obstructing him in making the inspection or examination aforesaid, shall be liable to a penalty not exceeding forty shillings for every such offence.

Unobjectionable.

Section 46-48.—Disinfection of (a) *Bedding,* (b) *Premises*

46. (1) Every local authority may, and when required by the Board shall, provide, either within or without their district, proper premises, with all necessary apparatus and attendance, for the destruction and for the disinfection, and carriages or vessels for the removal of articles (whether bedding, clothing, or other) which have become infected by any infectious disease, and shall cause any such articles brought for destruction or disinfection to be destroyed, or to be disinfected, and returned, and may remove, and may destroy or disinfect, and return, such articles free of charge.

(2) Any local authorities may execute their duty under this section by combining for the purposes thereof, or by contracting for the use by one of the contracting authorities of any premises, or of any apparatus or appliances, provided for the purpose of this section by another of such contracting authorities, and may so combine or contract upon such terms as may be agreed upon.

47. (1) Where it appears to the local authority, upon the certificate of the medical officer or any other legally qualified medical practitioner, that the cleansing and disinfecting of any house or part thereof and of any articles therein likely to retain infection, or the destruction of such articles, would tend to prevent or check any infectious disease, the local authority may serve notice on the occupier, or, where the house or part thereof is unoccupied, on the owner, of such house or part thereof, that the same and any such articles therein will be cleansed and disinfected, or (as regards the articles) destroyed, by the local authority, unless the person so notified informs the

local authority, within a time to be specified in the notice from the receipt of the said notice, that he will cleanse and disinfect the house or part thereof and any such articles, or destroy such articles, to the satisfaction of the medical officer or of any other legally qualified medical practitioner, as testified by certificate by him, within a time fixed in the notice.

(2) If either—

(*a*) within the time specified as aforesaid from the receipt of the notice, the person on whom the notice is served does not inform the local authority as aforesaid; or

(*b*) having so informed the local authority, he fails to have the house or part thereof and any such articles disinfected, or such articles destroyed, as aforesaid, within the time fixed in the notice; or

(*c*) the occupier or owner, as the case may be, without such notice, gives his consent,

the house, or part thereof, and articles shall be cleansed and disinfected, or such articles destroyed by the officers of, and at the cost of, the local authority.

(3) For the purpose of carrying into effect this section, the local authority may enter by day on any premises.

(4) If the local authority deem it necessary to remove from any house or part thereof, or from any tenement of houses, all or any of the residents not being themselves sick, on account of the existence or recent existence therein of infectious disease, or for the purpose of disinfecting such house or part thereof, or such tenement or part thereof, they may make application to a sheriff, magistrate, or justice, and the sheriff, magistrate, or justice, if satisfied of the necessity of such removal, may grant a warrant authorising the local authority to remove such residents, and imposing such conditions as to time and otherwise as to him may seem fit. Provided always that no such warrant shall be necessary when the removal is carried out with the consent of any such resident or his parent or guardian. The local authority shall, and they are hereby empowered to, provide temporary shelter or house accommodation, and, if necessary, maintenance, with any necessary attendants, free of charge, for such persons while prevented from returning to such house or part thereof, or such tenement or part thereof.

(5) When the local authority have disinfected any house, part of a house, or any article, under the provisions of this section, they shall compensate the occupier or owner of such house, or part of a house, or the owner of such article, for any unnecessary damage thereby caused to such house, part of a house, or article; and when the authority destroy any article under this section they shall reasonably compensate the owner thereof, and the amount of any such compensation shall be recoverable in a summary manner.

For the purpose of this section the word "house" includes any tent or van or any ship lying in any sea, river, harbour, or other water, or *ex adverso* of any place within the limits of the local authority.

48. (1) Any local authority may serve a notice on the owner of any bedding, clothing, or other articles which have been exposed to the infection of any infectious disease, requiring the delivery thereof to an officer of the local authority for removal for the purpose of destruction or disinfection; and if any person fails to comply with such notice, he shall be liable to a penalty not exceeding ten pounds.

(2) The bedding, clothing, and articles, if so disinfected by the local authority, shall be brought back and delivered to the owner free of charge, and if any of them suffer any unnecessary damage, the authority shall compensate the owner for the same, and the authority shall also reasonably compensate the owner for any articles destroyed; and the amount of compensation shall be recoverable in a summary manner.

These clauses, but especially 47 (1), are valuable in view of the frequent change of residence which we know occurs among the consumptive occupants of small-sized houses. One of the main advantages of notification will be the knowledge which it will bring of houses requiring disinfection, and the clauses here quoted have been selected by the Board in their circular of 10th March last to illustrate the value of including Consumption within the general Act. The circular however, appears also to suggest the periodic disinfection of schools, churches, railway stations, and other places of public resort, and it will be for the Clerk to advise the Corporation whether under these sections a local authority can insist on the disinfection of any premises which lie only within the area of a general suspicion, but regarding which no specific instance of contamination can be alleged.

Section 47 (4).—Reception-houses.

Section 47 (4) contains the provision by which reception-houses may be provided. In ordinary application no difficulty need be anticipated in connection with Consumption. The enquiry of last year revealed cases of the disease in single-apartment houses, *where continuance of the patient meant risk to the other inmates*, and the simpler course in most of these instances would be to provide accommodation for the patient, while allowing the other members of the family to remain at home. But consumptive mothers of one-roomed families, where the children are young, present probably the most difficult aspect of this question, although even here risk of infection may be greatly lessened by careful attention to coughing and the disposal of sputum.

Section 49.—Washing and Mangling of Clothes.

49. Whenever it shall be certified to the local authority by the medical officer of health that it is desirable, with a view to prevent the spread of infectious disease, that they should be furnished with a list of the customers of any person or company earning a livelihood or deriving gain by the washing or mangling of clothes, the local authority may require such person or company to furnish to them a full and complete list of the names and addresses of the owners of clothes for whom such person or company washes or mangles, or has washed or mangled, during the past six weeks, and such person or company shall furnish such list accordingly; and the local authority shall pay to him, her, or them, for every such list, the sum of sixpence, and at the rate of sixpence for every twenty-five names contained therein, but no such payment shall exceed three shillings; and every person who shall wilfully or knowingly offend against this enactment shall, for each such offence, be liable to a penalty not exceeding five pounds, and to a daily penalty not exceeding twenty shillings.

Unobjectionable.

Section 50.—Infectious Matter thrown into Ashpits, &c.

50. (1) If a person knowingly casts or causes or permits to be cast into any ashpit, or otherwise exposes, any matter or article infected by infectious disease, he shall be liable to a penalty not exceeding five pounds, and, if the offence continues, to a further penalty not exceeding forty shillings for every day during which the offence so continues after the notice hereafter in this section mentioned.

(2) The local authority shall cause their officers to serve notice of the provisions of this section on the occupier of any house, or part of a house, in which they are aware that there is a person suffering from an infectious disease.

Unobjectionable.

Section 51.—Penalty on Letting Houses in which Infected Persons have been Lodging.

51. (1) Any person who knowingly lets for hire any house, or part of a house, in which any person has been suffering from an infectious disease, without having such house, or part of a house, and all articles therein liable to retain infection, disinfected

to the satisfaction of the medical officer, as testified by a certificate signed by him, or (as regards the articles) destroyed, shall be liable to a penalty not exceeding twenty pounds.

(2) For the purposes of this section, the keeper of an inn or hotel shall be deemed to let for hire part of a house to any person admitted as a guest into such inn or hotel.

This section prohibits the letting, until after disinfection, of houses in which persons suffering from infectious disease have resided. In ordinary house infection no difficulty will arise, but the Clerk's attention might be directed to Sub-section (2) in its application to inns and hotels—Would a general instruction issued by the hotel keeper, in a form to be approved of by the local authority, advising consumptive visitors regarding the precautions to be taken for the care and disposal of sputum, obviate the literal application of this section?

Section 52.—Penalty on Persons Letting Houses Making False Statement as to Infectious Disease.

52. Any person letting for hire, or showing for the purpose of letting for hire, any house, or part thereof, who, on being questioned by any person negotiating for the hire as to the fact of there being, or within six weeks previously having been, therein any person suffering from any infectious disease, knowingly makes a false answer to such question, shall be liable, at the discretion of the sheriff, magistrate, or justice, to a penalty not exceeding twenty pounds, or, where the proceedings are before a sheriff, to imprisonment, with or without hard labour, for a period not exceeding one month.

Probably this section does not apply to hotel keepers, in which case it would be unobjectionable; but, in the event of its being held applicable, the suggestion to issue a general instruction such as is referred to in the note regarding 51 (2) might also here be considered.

Section 53.—Penalty on Person Ceasing to Occupy the House without Disinfection, or without Notice to the Owner, or Making False Answer.

53. (1) Where a person ceases to occupy any house, or part of a house, in which any person has within six weeks previously been suffering from any infectious disease, and either—

(*a*) fails to have such house, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of the medical officer, as testified by a certificate signed by him, or such articles destroyed; or

(*b*) fails to give to the owner or occupier of such house, or part of a house, notice of the previous existence of such disease; or

(*c*) on being questioned by the owner or occupier of, or by any person negotiating for the hire of, such house, or part of a house, as to the fact of there having within six weeks previously been therein any person suffering from an infectious disease, knowingly makes a false answer to such question,

he shall be liable to a penalty not exceeding twenty pounds.

(2) The local authority shall cause their officers to serve notice of the provisions of this section on the occupier of any house, or part of a house, in which they are aware that there is a person suffering from an infectious disease.

Unobjectionable.

Section 54.—Hospital Accommodation.

54. (1) A person suffering from any infectious disease who is without proper lodging or accommodation, or is so lodged that proper precautions cannot be taken for preventing the spread of the disease, or is lodged in a tent or van, or in a room occupied

by others besides those necessarily in attendance on such person, or is on board a ship, may, on a certificate signed by the medical officer or other legally qualified medical practitioner, and with the consent of the superintending body of the hospital to which he is to be removed, be removed by order of a sheriff, magistrate, or justice, on the application and at the cost of the local authority of the district where such person is found, to any hospital in or within a convenient distance of such district, or, in the case of a combination as hereinafter provided, in or within a convenient distance of the combined district, or the sheriff, magistrate, or justice may direct the removal from the room or house occupied by such person of all others not in attendance on him, the local authority providing suitable accommodation for such person or persons; and such person may be detained in such hospital so long as he continues in an infected condition. Provided always that no such order shall be necessary where the removal is carried out with the consent of the patient or his parent or guardian.

(2) The order may be addressed to any constable or officer of the local authority, as the sheriff, magistrate, or justice making the same thinks expedient; and if any person wilfully disobeys or obstructs the execution of such order, he shall be liable to a penalty not exceeding ten pounds.

See memorandum by Clerk of 1st August, 1906.

Section 55.—Detention of Infected Persons in Hospital.

55. (1) A sheriff, magistrate, or justice, on being satisfied, on the application of the local authority, that a person suffering from any infectious disease is in a hospital, and would not on leaving the hospital be provided with lodging or accommodation in which proper precautions could be taken to prevent the spreading of the disease by such person, may direct such person to be detained in the hospital at the cost of the local authority, during the time limited by the sheriff, magistrate, or justice, who may enlarge the time as often as appears to him necessary for preventing the spread of the disease.

(2) The direction may be carried into execution by any officer of any local authority, or by any police constable, or any officer of the hospital.

Originates wholly on the initiative of the Local Authority, and might, indeed, be made educative in respect of persons who are hopelessly and culpably reckless in the disposal of sputum.

Section 56.—Penalty for Exposing Infected Persons and Things.

56. (1) If any person—

(*a*) while suffering from any infectious disease wilfully expose himself *without proper precautions* against spreading the said disease in any street, public place, shop, inn, hotel, church, or any place used in common by persons other than members of the family or household to which such infected person belongs; or

(*b*) being in charge of any person so suffering, so exposes such sufferer; or

(*c*) knowingly gives, lends, sells, pawns, transmits, removes, or exposes, or permits to be washed or exposed in any wash-house or washing green which is used in common by persons other than the family or household to which the infected persons belongs, without previous disinfection to the satisfaction of the medical officer or of some legally qualified medical practitioner, as certified by him in writing, any bedding, clothing, or other articles which have been exposed to infection from any such disease; or

(*d*) wakes or permits to be waked in any house, room, or place over which he has control the body of any person who has died of any infectious disease,

he shall be liable to a penalty not exceeding five pounds.

(2) Provided that proceedings under this section shall not be taken against persons transmitting with proper precautions any bedding, clothing, or other articles for the purpose of having the same disinfected.

Sub-section (*a*) prohibits the exposure of any infected person *without proper precautions against spread of the disease* in any street, public place, shop, inn, hotel, church, or other place used in common by others than members of the patient's family; and Sub-section (*c*) prohibits the washing or exposing in any wash-house or washing green used in common by persons other than those of the patient's family any articles of bedding or clothing which have been exposed to infection, and not previously disinfected to the satisfaction of a medical practitioner.

With regard to (*a*), it has been held that not only is exposure necessary, but also the neglect of "proper precautions," so that, viewed in this light, the provision might create no difficulty; and Sub-section (*c*) should not prove unworkable.

Section 57.—Penalty on Children being Sent to School from Infected Households.

57. Every parent or person having care or charge of a child who is or has been suffering from infectious disease, or who resides in a house where such disease exists, or has existed within a period of three months, who shall knowingly or negligently permit such child to attend school without procuring and producing to the teacher or other person in charge of such school a certificate from the medical officer, which he shall grant free of charge, or from some legally qualified medical practitioner, that such child has become free from disease and infection, and that the house and everything therein exposed to infection has been disinfected to the satisfaction of such medical officer or medical practitioner, shall be liable to a penalty not exceeding forty shillings.

Provided that if a person is not required to send notice in the first instance, but only in default of some other person, he shall not be liable to any penalty if he satisfies the court that he had reasonable cause to suppose that the notice had been duly sent.

Any teacher or person in charge of any school, who shall knowingly permit any child to attend such school in contravention of the provisions of this section, shall be liable to a penalty not exceeding forty shillings.

Here the terms of the Statute would seem to be absolute, and a real difficulty emerges. Every parent or person who sends, and every teacher who admits, to school any child from a house in which there is infectious disease, incurs a penalty. The clause in its present form has caused considerable inconvenience in respect even of some of the infectious diseases presently dealt with, and has to some extent fallen into disuse in certain districts. The intention of the clause is, of course, that no child should attend school when there is a risk of carrying infection to others. Any attempt to apply it to consumption would be unreasonable, because unnecessary.

Section 58.—Prohibition of Infected Persons carrying on Business.

58. No person suffering from an infectious disease, or who is living in an infected house, shall milk any animal, or pick fruit, or shall engage in any occupation connected with food, or carry on any trade or business in such a manner as to be likely to spread such disease, and any person who, knowing himself to be suffering from any infectious disease, contravenes this section, shall be liable to a penalty not exceeding ten pounds.

Here, again, the terms of the clause could not be applied indiscriminately to consumption, or at all indeed, unless the phrase "in such a manner as to be likely to spread disease" is to be used as synonymous with the "proper precautions" referred to in connection with exposure of infected persons in a public place.

Section 59.—Prohibition of Conveyance of Infected Persons.

59. It shall not be lawful for any owner or person in charge of a public conveyance or ship knowingly to convey therein, or for any other person knowingly to place therein, a person suffering from any infectious disease, or for a person suffering from any such disease to enter any public conveyance or ship, and any person contravening any of the foregoing provisions shall be liable to a penalty not exceeding ten pounds; and if any person so suffering is conveyed in any public conveyance or ship, the owner or person in charge thereof, as soon as it comes to his knowledge, shall give notice to the local authority, and shall cause such conveyance or ship to be disinfected, and if he fails so to do, he shall be liable to a fine not exceeding five pounds, and such owner or person in charge shall be entitled to recover in a summary manner from the person so conveyed by him, or from the person causing that person to be so conveyed, a sum sufficient to cover any loss and expense incurred by him in connection with such disinfection. It shall be the duty of the local authority, when so requested by such owner or person in charge, to provide for the disinfection of the same, and they may do so free of charge. But nothing contained in this section shall prevent the removal by railway train or by ship of persons suffering from infectious disease if they are conveyed within an ambulance waggon or other proper vehicle provided or approved of by the local authority.

Here the person in charge of a public conveyance is prohibited from hiring, and the person suffering from infectious disease is prohibited from using, any public conveyance, including tramways, railway carriages, omnibuses, hackney carriages, &c. This could not be applied in the case of Consumption and its application supported by any reasonable evidence that public safety invariably demanded it. Any consumptive, however, spitting in a cab, tramway, or train would reasonably incur the penalty attached, because indiscriminate spitting is not consistent with the observance of proper precautions. The clause, however, is inelastic.

Section 60-61.—Inspection of Dairies—Milk Clauses.

60. (1) If the medical officer of any district has evidence that any person in the district is suffering from an infectious disease attributable to milk supplied within the district from any dairy situate within the district, or that the milk from any such dairy is likely to cause any such disease to any person residing in the district, such medical officer shall visit such dairy, and the medical officer shall examine the dairy and every person engaged in the service thereof or resident upon the premises, or who may be resident in any premises where any person employed in such dairy may reside, and, if accompanied by a veterinary surgeon approved as aforesaid, shall examine the animals therein, and the medical officer shall forthwith report the results of his examination, accompanied by the report of the veterinary surgeon, if any, to the local authority or any committee of the local authority appointed under section fourteen to deal with such matters.

(2) If the medical officer of any district has evidence that any person in the district is suffering from any infectious disease attributable to milk from any dairy without the district, or that the milk from any such dairy is likely to cause any such disease to any person residing in the district, such medical officer shall forthwith intimate the same to the local authority of the district in which such dairy is situate, and such other local authority shall be bound forthwith, by its medical officer, to examine the dairy and the persons aforesaid, and by a veterinary surgeon approved as aforesaid to examine the animals therein, previous notice of the time of such examination having been given to the local authority of the first-mentioned district, in order that the medical officer, or any veterinary surgeon approved as aforesaid may, if they so desire, be present at the examinations referred to, and the medical officer of the second-mentioned local authority shall forthwith report the results of his examination, accompanied by the report of the veterinary surgeon, if any, to that local authority or any committee of that local authority appointed under section fourteen of this Act to deal with such matters.

(3) The local authority of the district in which the dairy is situated, or any committee appointed for the purpose, shall meet forthwith and consider the reports, together with any other evidence that may be submitted by parties concerned, and shall either make an order requiring the dairyman not to supply any milk from the dairy until the order has been withdrawn by the local authority, or resolve that no such order is necessary.

(4) Where proceedings are taken or any order is made under this section by the local authority of a district other than a burgh, it shall not be competent to appeal against the said proceedings or against said order to the county council.

(5) The local authority may, if the dairy is within the district, require the dairyman not to supply milk either within or without the district, and shall give notice of the fact to the local authority of any district within which they believe milk to be supplied from such dairy.

(6) Any such order shall be forthwith withdrawn on the local authority, or their medical officer on their behalf, being satisfied that the milk from the dairy is no longer likely to cause infectious disease.

(7) It shall be open to any local authority or dairyman aggrieved by any such resolution or order, or withdrawal of order, to appeal in a summary manner to a sheriff having jurisdiction in the district in which the dairy is situated, and the sheriff may either make an order requiring the dairyman to cease from supplying milk or may vary or rescind any order which has been made by the local authority, and he may at any time withdraw any order made under this section. Pending the disposal of any such appeal, the order shall remain in force.

(8) If any person refuses to permit the medical officer or veterinary surgeon of either local authority to make examination as above provided, or, after any order has been made under this section, supplies milk in contravention of the order, he shall be liable to a penalty not exceeding ten pounds, and, if the offence continues, to a further penalty not exceeding five pounds for every day during which the offence continues.

(9) Provided that—

(*a*) proceedings in respect of the offence shall be taken before a sheriff having jurisdiction in the place where the dairy is situate; and

(*b*) a dairyman shall not be liable to an action for breach of contract, if the breach be due to an order under this section.

(10) Nothing in or done under this section shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1886, or of any order, license, or act of the Privy Council or the Board thereunder, or of any regulation, license, or act of a local authority, made, granted, or done under any such order of the Privy Council or the Board, or exempt any dairy, building, or thing, or any person from the provisions of any general Act relating to dairies, milk, or animals.

61. Whenever it shall be certified to the local authority, by the medical officer or other legally qualified medical practitioner, that the outbreak or spread of infectious disease within the district is, in the opinion of such medical officer or medical practitioner, attributable to milk supplied by any dairyman, whether wholesale or retail, or to milk supplied by one or other of several such dairymen, whether wholesale or retail—

(1) The local authority may require such dairyman, whether within or without the district, to furnish to them within a time to be fixed by them, being not less than twenty-four hours, a full and complete list of the names and addresses of all his customers within the district, so far as known to him, and such dairyman shall furnish such list accordingly, and the local authority shall pay to him for every such list at the rate of sixpence for every twenty-five names contained therein; and every person who shall wilfully or knowingly offend against this enactment shall for each such offence be liable to a penalty not exceeding five pounds and to a daily penalty not exceeding forty shillings.

(2) The local authority may require such dairyman to furnish to them, within a time to be fixed by them, a full and complete list of the names and addresses of the farmers, dairymen, or other parties from whom, during a

period to be specified, the milk, or any part of the milk, which they sell or distribute, was obtained, and, if required, to produce and exhibit to the medical officer, or to any person deputed by him, all invoices, pass books, accounts, or contracts connected with the consignment or purchase of milk during such period, and such dairymen or others shall furnish such lists and produce and exhibit such invoices, pass books, accounts, or contracts accordingly; and every person who shall wilfully or knowingly offend against this enactment shall for every such offence be liable to a penalty not exceeding five pounds, and to a daily penalty not exceeding forty shillings.

(3) In any case where the person liable to any penalty under this section is not resident within the district, such penalty may be sued for at the instance of the procurator-fiscal before the sheriff of the county in which such person is either domiciled or carries on business.

Unobjectionable, and might prove useful. But Sections 83-92 of the Burgh Police (Scotland) Act, 1903, which are adoptive, have a more specific application to Consumption, and could with advantage be adopted.

Section 62.—Prohibition of Retention and Removal of Dead Bodies.

62. (1) A person shall not, without the sanction in writing of the medical officer or of a legally qualified medical practitioner, retain unburied for more than forty-eight hours, elsewhere than in a room not used at the time as a dwelling-place, sleeping-place, or work-room, the body of any person who has died of any infectious disease.

(2) If a person acts in contravention of this section, he shall be liable to a penalty not exceeding five pounds.

Unobjectionable.

Section 63.—Body of person dying of Infectious Disease in Hospital, &c., to be removed only for burial.

63. (1) If a person dies in a hospital or place of temporary accommodation for the sick from any infectious disease, and the medical officer or any legally qualified medical practitioner certifies that, in his opinion, it is desirable, in order to prevent the risk of communicating such disease or of spreading infection, that the body be not removed from such hospital or place except for the purpose of being forthwith buried, it shall not be lawful for any person to remove the body except for that purpose; and the body, when taken out of such hospital or place, shall be forthwith taken direct to the place of burial and there buried.

(2) If any person wilfully offends against this section, he shall be liable to a penalty not exceeding ten pounds.

(3) Nothing in this section shall prevent the removal of a dead body from a hospital to a mortuary, and such mortuary shall, for the purposes of this section, be deemed part of such hospital.

Unobjectionable.

Section 64.—Disinfection of Public Conveyance used for carrying corpses.

64. If—

(*a*) a person hires or uses a public conveyance or a conveyance that is let for hire, other than a hearse, for conveying the body of a person who has died from any infectious disease, without previously notifying to the owner or driver of the conveyance that such person died from such disease; or

(*b*) the owner or driver, immediately on its coming to his knowledge that such conveyance is being or has been used for conveying such body, does not take all reasonable precautions to prevent the spread of infection, or does not forthwith give intimation to the local authority and provide for the disinfection of the conveyance to the satisfaction of the local authority, such person or such owner or driver shall be liable to a penalty not exceeding five pounds, and, if the offence continues, to a further penalty not exceeding forty shillings for every day during which the offence continues.

Unobjectionable.

Section 65.—By-laws as to Public Conveyances.

65. The local authority may make bye-laws for securing the cleanliness and sanitary condition of public conveyances plying within its district, and for preventing overcrowding in such conveyances.

Occasion might be taken to prepare bye-laws against spitting in vehicles.

Section 66.—Hospitals and Ambulances.

66. (1) Any local authority may, and if required by the Board shall, provide, furnish, and maintain, for the use of inhabitants of their district suffering from infectious disease, hospitals, temporary or permanent, and houses of reception for convalescents from infectious diseases, or for persons who have been exposed to infection, and for that purpose may—

(*a*) themselves build such hospitals or houses; or

(*b*) contract for the use of any such hospital or house, or part thereof; or

(*c*) enter into any agreement with any person having the management of any such hospital or house, or part thereof, on payment of such annual or other sum as may be agreed on;

(*d*) any local authority, with the consent of the Board, may also, or in place of providing such hospitals or houses as aforesaid, employ nurses to attend the persons suffering from infectious disease in their own houses, and also supply medicines and medical attendance for such sick.

(2) Two or more local authorities may, and if required by the Board shall, combine in providing, furnishing, and maintaining a common hospital or house of reception, or in employing nurses on terms to be agreed on, and, failing agreement, to be fixed by the Board, whose determination shall be binding.

(3) No contract for the use of any such hospital or house, or part thereof, shall be entered into without the consent of the Board, and no such hospital or house of reception shall be provided unless and until the site and plans for the construction thereof have been approved of by the Board. Provided always that such site shall be in or within a convenient distance of the district of the local authority, or, in the case of a combination in terms of this section, in or within a convenient distance of the combined district.

(4) A local authority may, with the sanction, and subject to regulations made by the Board, provide and maintain one or more portable hospitals for the use of their district.

This has been already referred to in the Town-Clerk's Memorandum of 1st August, 1906.

Consumption in Common Lodging-houses, Section 96-97.

In Section 96 it is provided that any infectious disease in a common lodging-house *may*, *without warrant*, be removed to hospital. In other circumstances removal can only be accomplished by warrant or with consent, but in both the option to remove lies with the local authority.

In Section 97, however, it would appear that *removal must immediately follow the recognition of the disease* by the Medical Officer, and the Clerk's attention might be directed to this point, otherwise the treatment as in hotels might be considered.

Notification by Special Act.—Sheffield Clauses.

Under Section 45 of the Sheffield Corporation Act, 1903, compulsory notification of Consumption is provided for, and a fee is payable, but a subsequent clause deletes every provision " contained in any general or local Act of Parliament relating to infectious diseases," and, in lieu thereof, substitutes two dealing with disinfection of premises and clothing.

This is a doubtful advantage, and would, with us, if substituted for notification under the Public Health Act, open to challenge at least the setting aside of beds in the hospitals or reception-houses for such cases as are obviously spreading the disease by remaining at home.

The segregation of these cases and the utilisation of every provision we possess for remedying unhealthy conditions in the houses of consumptives form the primary objects for which notification of the disease is desirable.

It would appear, therefore, that to obtain full advantage of notification, the Local Authority should have at command most of the provisions of Part III of the Public Health Act, or their equivalents. In other words, the only aspects of the existing Act which specifically appear to present any difficulty are those dealing with—

(*a*) the use of an inn or hotel, or common lodging-house, or
(*b*) of a public conveyance by a consumptive;
(*c*) the admission of his children to school, and
(*d*) his continuance at certain kinds of business, so long as he is physically fit and observes the precautions necessary.

In view of the inelastic wording of the sections prohibiting the admission of children to school (Section 57) and the use of public conveyance (Section 59), it seems almost to invite criticism to suggest that they might be accepted in their present form, and then applied as circumstances would seem to indicate. Consumption, however, is a disease of limited range of infectivity, and in manner of infection differs in some respects from those which were under contemplation when the present Public Health Act was drafted. The Clerk will, of course, advise the Local Authority as to the legality of adopting clauses which are apparently so inflexible in their character, and thereafter applying them in a sense which was not contemplated when they were drafted; but it seems clear that the alternative to adoption of the general Act is to embody in a special Act almost all the clauses which the general Act contains, all indeed save the two or three indicated, regarding which it may be permitted to have some doubt as to their operation.

With regard to the school clause, it has already been said that in some districts it has already fallen into disuse, partly because it is unworkable, and partly also because it is not always necessary.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 3rd December, 1906.

MEMORANDUM BY THE TOWN-CLERK ON THE FOREGOING NOTES BY THE MEDICAL OFFICER OF HEALTH *RE* CONSUMPTION.

In the foregoing Memorandum of 3rd ultimo, the Medical Officer of Health raises one or two questions in regard to the application of Part 3 of the Public Health (Scotland) Act, 1897, to Consumption.

The first of these deals with the question of disinfection of premises which are under a "general suspicion" of having become infected, but regarding which no specific instance of contamination can be alleged. This point emerges on a consideration of Sections 46-48 of the Public Health Act. At the date of the passing of the Act, Consumption was not recognised as an infectious disease in the common application of the term, and, as a Local Authority would not, I think, be entitled to insist on the disinfection of premises coming under a "general suspicion" of infection in the case of disease contemplated at the passing of the Act, much less would they be entitled to do so in the case of Consumption—the infectivity of which, I am informed by the Medical Officer of Health, is not so great as the more commonly known infectious diseases. I do not, therefore, think that any action can be taken by the Local Authority for the disinfection of premises, unless it could be shown that, not only had there been a specific instance of contamination, but also reasonable grounds for believing that the spread of Consumption was likely to arise from the infected nature of those premises.

In regard to the point raised under Section 51 of the Act, and particularly Subsection (2), I agree with the Medical Officer that no difficulty would arise in the case of infection in a private house; but I do see a great difficulty in bringing home to the keeper of a hotel any culpability for failure to disinfect, to the satisfaction of the Medical Officer, any part of the hotel which might have, for a more or less limited period, sheltered a consumptive; and I think that, while the Act makes no provision for the issue of an instruction such as is mentioned in the query by the Medical Officer of Health, there should be no difficulty in the Local Authority recommending to hotel-keepers intimation by them, by notices in the hotel, the care which ought to be observed by consumptives in regard to the disposal of infected sputum.

The remarks in the immediately preceding paragraph, *mutatis mutandis*, may be held as applying to the further query raised under Section 52.

Clause 59, also referred to by the Medical Officer of Health, is equally inelastic with Section 57, and I think the only remedy which could properly be adopted would be the framing of, and insisting on, stringent regulations for the use of public vehicles by consumptives.

In regard to the final paragraph by the Medical Officer of Health as to the propriety of adopting clauses which are too inflexible to meet the variety of circumstances which might emerge in the case of the notification of consumption, I would not advise the adoption of those clauses, which in their present form cannot be applied as intended both in the letter and the spirit of the section; and I think that the proper alternative thereto is a special Act to deal with circumstances which were not contemplated when the inelastic provisions of the 1897 Act were drafted.

A. W. MYLES,
Town-Clerk.

City Chambers,
31st January, 1907.

DISPENSARY FOR PULMONARY TUBERCULOSIS.

The number of cases attending the dispensary conducted by the Glasgow Branch of the National Association for the Prevention of Consumption, along with certain particulars concerning the home conditions and how the applications were disposed of, are contained in the following Table:—

Phthisical Cases attending Dispensary at Sanitary Chambers, from April, 1906, to March, 1907, inclusive.

Months.	Applicants.			By whom sent.					How Glasgow Cases disposed of.					Housing of Glasgow Cases.				
	Glasgow.	Beyond.	Total.	Secretary.	Infirmaries	Own Doctor.	Own Account.	C. O. S.	Bellefield.	Poor House.	Lanfine.	Died.	At Home.	1 apt.	2 apts.	3 apts.	4 apts.	Institutions.
1906.																		
Apr.,	23	9	32	23	1	4	3	1	6	5	1	11	11	2	20	1	...	...
May,	10	5	15	7	2	4	1	1	5	...	...	1	5	2	5	3	...	...
June,	14	9	23	10	4	7	2	...	4	...	...	3	10	2	7	5	...	...
July,	14	9	23	15	2	3	3	...	5	1	...	3	8	1	7	4	1	1
Aug.,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sept.,	29	7	36	27	4	3	2	...	11	...	...	5	18	1	15	10	1	2
Oct.,	15	7	22	15	1	4	2	...	6	1	1	...	7	3	6	2	4	...
Nov.,	18	11	29	13	4	6	5	1	4	4	...	...	10	2	9	3	2	2
Dec.,	16	9	25	11	4	6	4	...	6	2	1	...	7	4	7	3	1	1
1907.																		
Jan.,	28	7	35	15	3	8	9	...	4	5	1	3	18	3	20	2	3	...
Feb.,	20	4	24	11	3	5	5	...	4	3	...	1	13	3	10	2	2	3
Mar.,	16	8	24	14	3	2	5	...	2	1	1	...	12	2	10	2	1	1
	203	85	288	161	31	52	41	3	57	22	5	27	119	25	116	37	15	10

DISEASES OF ORGANS OF RESPIRATION.

The Registrar-General in 1901 withdrew pneumonia from this group of diseases and constituted it a separate entry among general diseases.

This is in consonance with the view now prevailing that pneumonia is a systemic infection, with a limited range of infectivity.

In 1906 the Local Government Board adopted the Registrar-General's arrangements, and it will be convenient to introduce it here. But in order to obtain a figure for diseases of respiration comparable with those of former years, pneumonia must be added to those now remaining under the original classification.

With this explanation, the deaths from respiratory diseases, including croup, number 1,422, and the rate 1,770 per million. From pneumonia alone 1,331 deaths occurred, representing a death-rate of 1,657; and together they number 2,753, which represents a death-rate of 3,427 per million living, compared with 3,569 for 1905.

The death-rate per 1,000 for respiratory diseases for several periods has been—

1881-90, ...	5·870	1904, ...	4·036
1891-1900, ...	4·993	1905, ...	3·569
1900, ...	4·979	1906—Pneumonia, 1,657	3·427
1901, ...	4·335	Other Diseases	
1902, ...	4·836	of Respiration, 1,770	
1903, ...	3·927		

The death-rates in the several Wards from diseases of the respiratory organs alone (*i.e.*, excluding pneumonia) is shown in the following Table, which contains, for convenience of reference, a column showing the combined death-rate from diseases of respiration and from pneumonia for 1906.

TABLE XXXVIII.

GLASGOW, 1906.—RESPIRATORY DISEASES (including CROUP).—DEATHS and DEATH-RATES in each MUNICIPAL WARD, with Corresponding Rates for 1903, 1904, and 1905.

MUNICIPAL WARDS.	Death-rate per Million.			1906.			
				Excluding Pneumonia.		Total, Including Pneumonia.	
	1903.	1904.	1905.	Deaths.	Death-rate per Million.	Deaths.	Death-rate per Million.
1. Dalmarnock, ...	4,463	4.698	3,602	91	1,820	186	3,720
2. Calton, ...	4,646	5,663	4,365	98	2,718	160	4,437
3. Mile-end, ...	4,424	4,331	4,389	98	2.194	174	3,895
4. Whitevale, ...	3,907	4,533	3,772	61	1,860	109	3,324
5. Dennistoun, ...	2,338	1,986	1,925	39	1,078	75	2,074
6. Springburn, ...	4,183	3,996	3,706	75	1,733	153	3,535
7. Cowlairs, ...	3,224	3,626	3.652	53	1,700	89	2,855
8. Townhead, ...	3,676	4,243	4,478	79	2,065	144	3,764
9. Blackfriars, ...	5,544	5,956	5,269	53	2,430	112	5,134
10. Exchange, ...	4,032	2,681	3,779	1	481	3	1,443
11. Blythswood, ...	2,781	2,869	1,202	3	915	5	1,525
12. Broomielaw, ...	5,997	4.326	4,530	11	1,456	33	4,368
13. Anderston, ...	3,803	3,466	3,650	56	1,945	100	3,473
14. Sandyford, ...	3,058	3,585	3,857	42	1,678	78	3,117
15. Park, ...	2,445	1,784	1,119	24	965	44	1,769
16. Cowcaddens, ...	5,931	6,415	6,427	91	2,496	174	4,773
17. Woodside, ...	3.001	3,262	3,189	86	1,979	155	3,567
18. Hutchesontown,	5,099	5,740	4,124	73	1,828	197	4,933
19. Gorbals, ...	4,762	4,540	4,213	50	1,394	122	3,401
20. Kingston, ...	3,740	3,547	3,935	75	2,180	117	3,401
21. Govanhill, ...	2,723	3,246	2,577	39	1,147	93	2,736
22. Langside, ...	1,519	1,378	1,333	19	490	43	1,109
23. Pollokshields.	1,119	677	953	13	732	18	1,013
24. Kelvinside, ...	955	1,156	678	18	826	28	1,285
25. Maryhill,	3,958	4,073	3,028	45	1,130	113	2,837
26. Kinning Park.	...	...	...	32	2,362	50	3,690
— Institutions and Harbour, ...	...	...	...	97	...	178	...
CITY. ...	3,927	4,036	3,569	1,422	1,770	2,753	3,427

Pneumonia.—The deaths and death-rates obtaining in each Ward from this disease are shown in the following Table:—

TABLE XXXIX.

GLASGOW, 1906.—PNEUMONIA.—DEATHS and DEATH-RATES in each MUNICIPAL WARD.

MUNICIPAL WARDS.	Deaths.	Death-rate per Million.
1. Dalmarnock,	95	1,900
2. Calton,	62	1,719
3. Mile-end,	76	1,701
4. Whitevale,	48	1,464
5. Dennistoun,	36	996
6. Springburn,	78	1,802
7. Cowlairs,	36	1,155
8. Townhead,	65	1,699
9. Blackfriars,	59	2,704
10. Exchange,	2	962
11. Blythswood,	2	610
12. Broomielaw,	22	2,912
13. Anderston,	44	1,528
14. Sandyford,	36	1,439
15. Park,	20	804
16. Cowcaddens,	83	2,277
17. Woodside,	69	1,588
18. Hutchesontown,	124	3,105
19. Gorbals,	72	2,007
20. Kingston,	42	1,221
21. Govanhill,	54	1,589
22. Langside,	24	619
23. Pollokshields,	5	281
24. Kelvinside,	10	459
25. Maryhill,	68	1,707
26. Kinning Park,	18	1,328
— Institutions and Harbour,	81	...
CITY,	1,331	1,657

TABLE XL.

GLASGOW.—PNEUMONIA.—DEATHS AND DEATH-RATES PER MILLION FOR 51 YEARS, 1855-1905, from the Detailed Annual Reports of the Registrar-General, except 1904-5, which are from the Annual Reports.

YEAR.	Population.	No. of Deaths.		Total.	Death-rate per Million.	
		Male.	Female.			
1855, ...	...	...	...	565	1,585	
1856, ...	...	...	...	565	1,558	1,576
1857, ...	...	...	...	538	1,457	
1858, ...	...	...	...	663	1,763	
1859, ...	...	...	...	494	1,290	
1860, ...	...	...	...	707	1,813	
1861, ...	...	...	...	547	1,376	1,370
1862, ...	...	...	...	465	1,146	
1863, ...	...	...	...	608	1,469	
1864, ...	...	...	...	631	1,500	
1865, ...	...	...	...	581	1,357	
1866, ...	...	...	...	602	1,375	1,312
1867, ...	...	...	...	520	1,166	
1868, ...	...	...	...	561	1,233	
1869, ...	...	...	...	763	1,643	
1870, ...	...	...	...	538	1,141	
1871, ...	...	...	...	774	1,573	1,536
1872, ...	...	...	...	628	1,269	
1873, ...	...	...	...	664	1,342	
1874, ...	...	...	...	858	1,722	
1875, ...	...	...	...	885	1,772	
1876, ...	...	...	...	770	1,533	1,409
1877, ...	...	...	. .	808	1,602	
1878, ...	...	...	...	700	1,380	
1879, ...	...	...	...	651	1.281	
1880, ...	...	...	...	636	1,248	
1881, ...	...	...	...	778	1,519	1,949
1882, ...	...	...	...	812	1,568	
1883, ...	...	...	...	1,192	2.279	
1884, ...	...	...	. .	1,135	2,148	
1885, ...	...	...	...	1,190	2,229	
1886, ...	...	...	...	1,030	1,910	1.724
1887, ...	...	...	...	897	1,647	
1888, ...	...	...	...	836	1,519	
1889, ...	...	...	...	925	1,664	
1890, ...	...	...	...	1,056	1,880	
1891, ...	...	...	...	1,333	2,350	2,056
1892, ...	...	...	...	1,343	2,007	
1893, ...	...	...	...	1,416	2,089	
1894, ...	686,820	608	464	1,072	1.551	
1895, ...	695,876	902	687	1,589	2,283	
1896, ...	705,052	736	558	1,294	1,835	2,029
1897, ...	714,919	877	630	1,507	2,108	
1898, ...	724,349	842	572	1,414	1.952	
1899, ...	742,194	832	638	1,470	1,981	
1900, ...	753,494	993	718	1,711	2,271	
1901, ...	764,467	898	626	1,524	1.994	2,148
1902, ...	775,601	1,125	723	1,848	2,383	
1903, ...	786,897	970	708	1,678	2.132	
1904, ...	798,357	...	...	1,699	2,128	
1905, ...	809,986	...	...	1,703	2,103	
1906, ...	835,625	...	...	1.635	1,957	

PUERPERAL FEVER.—ERYSIPELAS.

In the following Table the cases of puerperal fever notified in each year since 1891, together with the case-rate per 1,000 births, and the death-rate from this cause and from erysipelas, are given:—

TABLE XLI.

Year.	Puerperal Fever.			Erysipelas.
	Cases Notified.	Case-rate per 1,000 Births.	Death-rate per Million Living.	Death-rate per Million Living.
1891	80	4·0	105	115
1892	63	2·8	64	84
1893	73	3·1	68	75
1894	64	2·8	51	83
1895	74	3·2	63	69
1896	105	4·4	79	55
1897	62	2·6	48	49
1898	71	2·9	52	40
1899	83	3·4	82	45
1900	78	3·2	78	32
1901	71	2·9	71	60
1902	90	3·6	51	51
1903	108	4·3	53	44
1904	89	3·6	53	53
1905	108	4·5	74	33
1906	119	4·8	69	62

The Death-rates above are based on data obtained from the Registrar-General's Reports.

UNCERTIFIED DEATHS AND DEATHS WITHOUT MEDICAL ATTENDANCE.

In Tables XLII. and XLIII. the total deaths occurring during the 10 years, 1891-1900, and 1901-6, are stated with the number and proportion *uncertified* and *dying without medical attendance* at *all ages* and *under* and *over five years*, together with a comparison of the proportions as affecting legitimate and illegitimate children under 1 and 5 years respectively, and in Table VII. of Appendix B the numbers occurring in each class in the several wards are given. Appendix Table VIII. gives corresponding information regarding the deaths occurring among members of Friendly Societies.

Certification.—At all ages 2·1 per cent. of the deaths were uncertified and 1 per cent. had no medical attendance. Under 5 years, however, 3·3 per cent. were uncertified and 1·8 per cent. had no medical attendance. The greatest contrast is furnished by deaths occurring under 1 year. Among legitimate infants the proportion of these uncertified was 4·7 per cent., while among illegitimates it was 6·1 per cent. Of the legitimate children dying under 1 year 45·1 per cent. were insured, an increase of 6·3 per cent. over last year, while among illegitimates the proportion is only 14·7 per cent., an increase of 1·9 per cent.

In the subjoined figures a comparison is established between the proportion of deaths uncertified in 1905 and 1906:—

Proportion of Uncertified Deaths to Total Deaths Registered in 1905 and 1906.

	Under 5 Years.		Above 5 Years.		All Ages.	
	1905.	1906.	1905.	1906.	1905.	1906.
Total deaths, ...	5,502	5,352	8,256	8,765	13,758	14,117
Not certified, ...	166	176	122	120	288	296
Percentage, ...	3·0	3·3	1·5	1·4	2·1	2·1

TABLE XLII.

Glasgow, 1906.—CERTIFICATION of Deaths.

	10 Years. 1891-1900.	1901.	1902.	1903.	1904.	1905.	1906.
Total Deaths, ...	149,184	15,716	15,054	14,483	14,794	13,758	14,117
Of these Uncertified, ...	4,916	451	412	363	351	288	295
Died without Medical Attendance, ...	2,638	240	217	162	151	142	143
Deaths under 5 years, ...	62,350	6,390	5,364	5,816	5,913	5,502	5,352
Of these Uncertified, ...	3,027	274	244	228	210	166	175
Died without Medical Attendance, ...	1,738	163	138	116	108	93	93
Deaths above 5 years, ...	86,834	9,326	9,690	8,667	8,881	8,256	8,765
Of these Uncertified, ...	1,889	177	168	135	141	122	120
Died without Medical Attendance, ...	900	77	79	46	43	49	50
Percentage of Total Deaths Uncertified, ...	3·3	2·9	2·7	2·5	2·4	2·1	2·1
Percentage of Total Deaths which occurred without Medical Attendance, ...	1·8	1·5	1·4	1·1	1·0	1·0	1·0
Percentage of Deaths under 5 years Uncertified,	4·9	4·3	4·5	3·9	3·6	3·0	3·3
Percentage of Deaths under 5 years which occurred without Medical Attendance,	2·8	2·6	2·6	2·0	1·8	1·7	1·8
Percentage of Deaths above 5 years Uncertified,	2·2	1·9	1·7	1·6	1·6	1·5	1·4
Percentage of Deaths above 5 years which occurred without Medical Attendance,	1·0	0·8	0·8	0·5	0·5	0·6	0·6

TABLE XLIII.

Glasgow, 1906.—COMPARATIVE Certification of Legitimate and Illegitimate Children.

	10 Years. 1891-1900.	1901.	1902.	1903.	1904.	1905.	1906.
Legitimate Deaths under 1 year, ...	30,304	3,203	2,800	3,116	3,173	3,161	2,794
Of these Uncertified, ...	1,853	193	174	167	143	144	132
Legitimate Deaths, 1—5 years, ...	26,066	2,614	2,063	2,109	2,206	2,340	2,043
Of these Uncertified, ...	476	41	28	23	30	22	19
Illegitimate Deaths under 1 year, ...	4,202	399	368	447	402	406	391
Of these Uncertified, ...	551	34	39	36	32	28	22
Illegitimate Deaths, 1—5 years, ...	1,778	174	133	144	132	130	124
Of these Uncertified, ...	147	6	3	2	5	2	4
Percentage Legitimate Deaths under 1 year Uncertified, ...	6·1	6·0	6·2	5·4	4·5	4·6	4·7
Percentage Legitimate Deaths, 1—5 years, Uncertified, ...	1·8	1·6	1·4	1·1	1·4	0·9	0·8
Percentage Illegitimate Deaths under 1 year Uncertified, ...	13·1	8·5	10·6	8·1	8·0	6·9	6·1
Percentage Illegitimate Deaths, 1—5 years, Uncertified, ...	8·3	3·4	2·3	1·4	3·8	0·3	4·0

TABLE XLIV.

Glasgow, 1906.—INSURANCE of Lives in Friendly Societies, with Comparison of Insurance of Legitimate and Illegitimate Children.

	10 Years. 1891-1900.	1901.	1902.	1903	1904.	1905.	1906.
Total Deaths, ...	149,184	15,716	15,054	14,483	14,794	13,758	14,117
Of these Insured, ...	87,824	9,386	9,001	8,734	9,080	8,628	8,918
Deaths under 5 years, ...	62,350	6,390	5,364	5,816	5,913	5,502	5,352
Of these Insured, ...	33,333	3,405	2,747	2,993	3,148	3,023	2,918
Deaths above 5 years, ...	86,834	9,326	9,690	8,667	8,881	8,256	8,765
Of these Insured, ...	54,491	5,981	6,254	5,741	5,932	5,605	6,000
Legitimate Deaths under 1 year, ...	30,304	3,203	2,800	3,116	3,173	3,161	2,790
Of these Insured, ...	13,052	1,374	1,117	1,309	1,389	1,228	1,257
Illegitimate Deaths under 1 year, ...	4,202	399	368	447	402	406	395
Of these Insured, ...	434	50	40	57	44	52	58
Legitimate Deaths, 1—5 years, ...	26,066	2,614	2,063	2,109	2,206	2,340	2,042
Of these Insured, ...	19,232	1,931	1,540	1,570	1,662	1,698	1,555
Illegitimate Deaths, 1—5 years, ...	1,778	174	133	144	132	130	125
Of these Insured, ...	615	50	50	57	53	45	48
Percentage of Total Deaths Insured, ...	58·9	59·7	59·8	60·3	61·4	62·7	63·2
Do. Deaths under 5 years Insured,	53·5	53·3	51·2	51·5	53·3	54·9	54·6
Do. Deaths above 5 years do.,	62·8	64·1	64·5	66·2	66·8	67·9	68·4
Do. Legitimate Deaths under 1 year Insured, ...	43·1	42·9	39·9	42·0	43·7	38·8	45·1
Do. Illegitimate Deaths under 1 year Insured, ...	10·3	12·5	10·9	12·7	10·9	12·8	14·7
Do. Legitimate Deaths, 1—5 years, Insured, ...	73·8	73·9	74·6	74·4	75·3	72·6	76·1
Do. Illegitimate Deaths, 1—5 years, Insured, ...	34·6	28·8	37·6	39·6	40·2	34·6	38·4

RABIES.

During the year the police reported that 168 persons had been bitten by dogs, in 7 of whom the injury inflicted was classified as "severe," while the remaining 161 were of a more or less trifling character.

The highest number occurred in the month of June, and the lowest in February.

The numbers occurring each month, as well as their character, are shown in the following Tabulation:—

Months.	Severe.	Trifling.	Total.	
January, ...	1	13	14	27
February, ...	—	6	6	
March, ...	—	7	7	
April, ...	1	14	15	53
May, ...	1	13	14	
June, ...	1	23	24	
July, ...	2	17	19	47
August, ...	1	13	14	
September, ...	—	14	14	
October, ...	—	12	12	41
November, ...	—	14	14	
December, ...	—	15	15	
Year, ...	7	161	168	

In each case the condition of the animal was inquired into, and the absence of rabies ascertained.

ANTHRAX.

Under the Contagious Diseases (Animals) Act, 1878 (Anthrax Order), the following cases were intimated to me by Professor M'Call, Principal of the Veterinary College, and Mr. A. M. Trotter, Veterinary Surgeon to the Corporation:—

1. On 19th January the undressed carcase of a cow affected with anthrax was received at the Moore Street Abattoir from a farm in Dumbartonshire. The carcase was condemned and destroyed.

2. On 4th August the carcase of a heifer belonging to a farmer in Lanarkshire was brought to Milton Street Slaughter-house. On examination it was found to be affected with anthrax.

3. On 5th November the carcase of a cow dead of anthrax was brought to Moore Street Abattoir from a farm in Dumbartonshire. The circumstances under which the animal died are as follows:—The animal in question died or was killed on or about 5th November, under circumstances which are described in my report for the fortnight ending 10th November, 1906. As therein stated, it would appear that the owner could not have been ignorant that the animal suffered from acute illness—and that, in fact, to prevent it dying from disease he had it killed. Notwithstanding this he forwarded

the carcase to Moore Street, where the nature of the disease was discovered. A prosecution was, I understand, raised against him under the Contagious Diseases (Animals) Act (Anthrax Order), but failed owing to a mistake having been made in the name of the farm.

It is suggested that no power exists to prosecute the sender, but I would recall the past experience of the department, and the illustrations (which were by no means infrequent during the earlier years of last decade) of the consigner of diseased meat being convicted, and fined even, when the carcases were purposely marked "For inspection." One illustration will be sufficient. The Stipendiary Magistrate sitting in the Central Police Court in November, 1902, remarked, on convicting the sender of the carcase of an animal dead of puerperal fever, but labelled "For inspection"—"As soon as this animal died it was unfit for human food, and something more was required than a label 'For inspection.'"

Other illustrations can be had from the records of that period, but the importance of the present incident arises from the suggestion that we have no legal means of punishing the sender of a carcase dying and forwarded as described.

The section of the Public Health Act which provides for prosecution is as follows:—

"PUBLIC HEALTH (SCOTLAND) ACT, 1897, SECTION 43 (2).

"If it appears to a Sheriff, Magistrate, or Justice that any animal or article which has been seized or is liable to be seized . . . is diseased, &c., he shall condemn the same . . . and the person to whom the same belongs or did belong at the time of sale or exposure . . . or transmission for the purpose of sale or a preparation for sale . . . shall be liable to a penalty . . . unless he proves that he . . . did not and could not, with reasonable care, have known it was in such a condition."

ANTHRAX IN THE HUMAN SUBJECT.

(*Extract from Minute No.* 32, *of date* 25*th July*, 1906.)

During the present fortnight two cases of anthrax were admitted to hospital. One resided and was employed in the Burgh of Rutherglen, but was admitted to Belvidere Hospital under circumstances to be subsequently related.

The first patient, M. M'G., a woman, aged 39, resided in the East-end of Glasgow, and was employed in Messrs. M'Nair & Co.'s hair factory in Summerfield Street. Her illness began on 22nd June, when a sore formed on her fore-arm, but she continued at work until the 27th, when, on consulting her medical attendant, she was removed to Belvidere Hospital for treatment.

The second case, T. W., a male, aged 15, resided at India Street, Rutherglen, and was employed at Messrs. Niven & Craig's hair works there. On 30th June this lad developed a sore, also on the fore-arm, and on 5th July, on consulting his medical attendant, he was advised to report himself at the Sanitary Office, Glasgow, which he did same day along with his employer, when he was sent to hospital.

In each case the patient worked with hair in its natural state. The woman, M'G., was an outside worker, and part of her duty was to open bales when they arrived, and she also uncoiled roped hair after it had passed through a process of manufacture associated with boiling and exposure to air heated to about 260° F.

During the fortnight previous to sickening several consignments of English horse hair had arrived, and also several of South American horse hair, portions of each being in the natural state. None of the English hair remained on the premises when the inquiry came to be made, and a sample of the South American hair did not yield on bacteriological examination any indication of anthrax. It is to be noted, however, that the raw hair, after unpacking, is passed through a revolving sieve to free it from dust; thereafter it is teased and mixed by machinery, but during this process a considerable quantity of dust is produced, despite the fact that fans are attached to the machine. The situation of the sore in this case, as in that of the other, does not suggest infection through a dust-laden atmosphere, but by inoculation through a superficial sore or abrasion on the arm.

The second patient was a porter in the work where he was employed, and his duties included receiving and opening bales on arrival. At this factory only two kinds of hair are dealt with, namely, hog hair from America and native grey and black horse hair. On unpacking the bales the hair here also is mixed and teased by a machine, and thereafter spun into ropes, which are boiled. In the apartment where this spinning and teasing is done the ventilation is extremely imperfect, and the air during the process is heavy with dust. Again, however, the location and character of the sore on the fore-arm do not suggest aerial infection, but direct inoculation of an abraded surface. In handling the bales it is common for the hand of the worker to be studded with hairs on withdrawal. In this case also bacterial examination of the hogs' hair was unproductive. The attention of the factory inspector has in each case been called to the condition of the ventilation.

BACTERIOLOGICAL LABORATORY.

During the year, 3,232 specimens of morbid products were forwarded to the laboratory, as compared with 2,775* in 1905. The specimens were submitted by 417 medical practitioners. Of these, 330 (accounting for 2,866 specimens) are in general practice within the municipal boundaries, 18 (accounting for 85 specimens) were resident outwith the boundaries, 62 (accounting for 178 specimens) were acting for public institutions, and 7 (accounting for 103 specimens) were connected with the Health Department.

It thus appears that 79·7 per cent. of the medical practitioners engaged in general practice within the City availed themselves of the laboratory for bacteriological diagnosis during the year, and the average number of specimens received from each practitioner was 8·7, compared with 8·4 in 1905.

Dr. Buchanan tabulates the results of these examinations in the following manner, the figures for 1904 and 1905 being introduced for comparison:—

TABLE SHOWING THE NUMBER OF SPECIMENS RECEIVED FROM MEDICAL PRACTITIONERS OF GLASGOW FOR BACTERIOLOGICAL DIAGNOSIS DURING THE YEAR 1906, COMPARED WITH 1904 AND 1905.

	DIPHTHERIA.			ENTERIC FEVER.			TUBERCULOSIS.			TOTAL.		
	1904.	1905.	1906.	1904.	1905.	1906.	1904.	1905.	1906.	1904.	1905.	1906.
January, -	104	71	104	50	58	55	87	108	89	241	237	248
February, -	59	83	138	81	56	48	95	100	105	235	239	291
March, -	84	95	135	93	71	67	103	139	144	280	305	346
April, -	99	94	107	55	75	46	103	92	150	257	261	303
May, - -	106	76	100	56	74	38	82	98	111	244	248	249
June, -	57	62	84	48	56	72	87	55	93	192	173	249
July, - -	40	36	74	41	46	28	54	55	40	135	137	142
August, -	50	61	86	53	64	71	55	73	83	158	198	240
September, -	45	66	113	108	84	70	74	78	70	227	228	253
October, -	99	98	159	86	79	64	85	85	132	270	262	355
November, -	111	116	134	76	43	44	87	93	95	274	252	273
December, -	74	122	123	106	65	60	98	48	100	278	235	283
TOTAL. -	928	980	1,357	853	771	663	1,010	1,024	1,212	2,791	2,775*	3,232
Positive result obtained in -	34·3 %	26·7 %	30·1 %	36·2 %	26·7 %	18·1 %	32·4 %	35·3 %	32·7 %	34·2 %	29·9 %	28·6 %

* Thirty-two packets, addressed to the Laboratory and containing specimens for bacteriological examination (Diphtheria, 4; Enteric Fever, 4; Tuberculosis, 24), were destroyed by the Postal Authorities on account, as alleged, of "having been posted contrary to the regulations of the Post Office, as laid down at page 20 of the Post Office Guide."

The specimens above tabulated were received from Medical Practitioners, as follows:—

330	Medical Practitioners	within the Municipal Boundaries,	2,866	specimens.
18	do.	outwith do.,	85	do.
62	do.	acting for Public Institutions,	178	do.
7	do.	connected with Health Department,	103	do.

From the Glasgow Directory it is found that there are 414 medical men engaged in general practice within the city. It thus appears that 79·7 per cent. of these availed themselves of the Laboratory for bacteriological diagnosis of diphtheria, enteric fever, and tuberculosis during the year.

The average number of specimens from each practitioner was 8·7, as compared with 8·4 in 1905, and 7·6 in 1904.

The total number of specimens submitted for examination during 1906 shows an increase of 457 over the previous year. The increase has been contributed from suspected cases of diphtheria and tuberculosis. It is noteworthy that during the past three years there has been a steady fall in the number of specimens from suspected cases of enteric fever, and this is naturally associated year by year with a progressive diminution in the notification of this disease.

TABLE SHOWING THE TOTAL NUMBER OF SPECIMENS FROM SUSPECTED CASES OF DIPHTHERIA, ENTERIC FEVER, AND TUBERCULOSIS SENT TO THE LABORATORY FOR BACTERIOLOGICAL DIAGNOSIS BY THE MEDICAL PRACTITIONERS OF GLASGOW SINCE THE INAUGURATION OF THIS WORK ON 1ST JANUARY, 1900.

Year.	Diphtheria.	Enteric Fever.	Tuberculosis.	Total.
1900, - -	353	543	351	1,247
1901, - -	438	1,048	565	2,051
1902, - -	712	807	847	2,366
1903, - -	997	1,014	932	2,943
1904, - -	928	853	1,010	2,791
1905, - -	980	771	1,024	2,775
1906, - -	1,357	663	1,212	3,232
Total, -	5,765	5,699	5,941	17,405

DIPHTHERIA CONTACTS.

Since the establishment of the Laboratory it has frequently been found, in connection with outbreaks of diphtheria in households, that bacteriological examination revealed the presence of the diphtheria bacillus in a percentage of those members of households who were apparently in good health. In March last this procedure was, as far as possible, adopted on systematic lines, and during the ten months 322 such contacts have been examined, with the result of showing the presence of the diphtheria bacillus in 34, representing 10·5 per cent.

BELLEFIELD SANATORIUM.

During the year 290 specimens of sputum were received for bacteriological examination from the Dispensary in the Sanitary Chambers, connected with Bellefield Sanatorium. In 160 of these the *bacillus tuberculosis* was found, equivalent to 55 per cent.

EXAMINATION OF RATS FOR PLAGUE DURING 1906.

During the year 1906 rats to the number of 1,032 were brought to the Laboratory and examined for plague. No trace of this disease was found. The following table gives the numbers examined in relation to the places from which they were obtained, compared with the previous year:—

Year.	From the City.	From Shipboard.	From Docks.	Total.	Plague Infected.
1906,	542	490	—	1,032	—
1905,	284	350	29	663	—

INVESTIGATIONS.

In addition to the specimens above tabulated, the following were investigated for the Health Department, Medical Practitioners within the City, the Veterinary Surgeon, and the Water Department:—

Milk,	17
Water,	7
Meat-poisoning,	17
Tinned Fish,	4
Shellfish (Enteric Fever),	51
Cerebro-Spinal Fever,	51
Enteric Fever,	20
Diphtheria,	3
Tuberculosis,	1
Septic Infection,	2
Glanders,	5
Hair (Anthrax),	2
Disinfectants,	1
Tinned Meat,	11
Tinned Fish,	22
Unsound Fish,	1
Unsound Game,	1
Flock Bedding,	26
Disinfectants,	4
Insects infecting houses,	1
Hospitals—	
Diphtheria,	16
Enteric Fever,	22
Paratyphoid,	4
Tuberculosis,	1
Meningitis,	2
Infants' Milk Depot,	429
Medical Practitioners—	
Miscellaneous Specimens relating to Tuberculosis, Enteric Fever, Paratyphoid, Dysentery, Mucous Colitis, Septic Infections, Cancer, Glanders, Anthrax, and Food-poisoning,	149
Veterinary Surgeon—	
Milk from Cows with Disease of the Udder,	5
Specimens from Diseased Teat,	3
Water Department—	
Insect Larvæ,	2
Incrustation,	1
Sediments,	4
Total,	885

EXAMINATION OF RATS FOR PLAGUE DURING 1906.

The record of this work shows a total for the year of 1,032 examinations, as against 663 in 1905, 2,252 in 1904, and 2,270 in 1903. The following Table gives the numbers examined in relation to places from which they were obtained, and the result:—

	Number of Rats submitted for Examination.				Plague Infected.
	From the City.	From Shipboard.	From Docks.	Total.	
January, ...	67	31	...	98	...
February. ...	74	49	...	123	...
March, ...	69	100	...	169	...
April, ...	64	88	...	152	...
May, ...	17	14	...	31	...
June, ...	42	53	...	95	...
July, ...	36	32	...	68	...
August, ...	61	60	...	121	...
September, ...	35	26	...	61	...
October, ...	18	16	...	34	...
November, ...	48	21	...	69	...
December, ...	11	...	...	11	...
	542	490	...	1,032	...

DAIRIES, COWSHEDS, AND MILKSHOPS ORDER, 1899.

The number of persons registered during 1906, under Section 6 (1) of the above Order, was 75; and the number of cattle kept for the production of milk in byres in Glasgow may be stated at 841, although this is subject to some fluctuation throughout the year.

The following Table* contains the results of the veterinary inspection of milk animals stalled within the City byres during the year:—

	Total Number Affected.	Animals Removed or Destroyed.	Number from which the Milk was Destroyed.
Udder Diseases—			
Mastitis (Tubercular), - - -			
„ (Acute or Chronic), - - - -			
Other Diseases affecting the Milk—			
Tuberculosis (General), - - - - -			
Gastritis, - - - - - - - -			
Bronchitis, - - - - - - -			
Part. Apoplexy, - - - - - -			
Stomach Derangement, - - - - -			

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* At the time of going to press this information was not forthcoming.

HOSPITALS AND RECEPTION-HOUSES.

(*H*) An Account of the Hospital Accommodation available for Persons suffering from Infectious Disease (including the Means provided for the Conveyance of such Persons), and of the Houses of Reception, with Observations on the Furnishing, Maintenance, Administration, and Adequacy of such Accommodation, &c.

(a) *Hospitals.*—Table IX. of Appendix B contains a statement of the beds available for epidemic disease for the several years.

(b) *Reception-houses.*—During the year, 126 contacts with the diseases shown in the following Table were accommodated:—

Glasgow, 1906.—Return of Persons admitted to City Reception-houses.

Diseases.	Weaver Street.	South York Street.	Baird Street.
Smallpox, ...	...	13	...
Typhus, ...	...	23	12
Enteric Fever, ...	3	18	17
Scarlet „	...	3	12
Diphtheria, ...	...	11	...
Others, ...	...	10	4
Total, ...	3	78	45

On 2nd April, Weaver Street Reception-house was closed, and has since been demolished; and on 30th March the new Reception-house situated in Baird Street was formally opened.

Description.

The ground on which the present building is erected was formerly included within the area of the Kennedy Street Hospital. The portion set apart for reception-house purposes extends to 2,492 square yards, of which 1,004 are covered by buildings, the remainder (1,488 square yards) being used as exercise courts. The total accommodation provides for 190 adults, exclusive of staff, and the scale of sleeping accommodation provides 400 cubic feet per adult in the bedrooms and 500 cubic feet in the dormitories.

The building roughly presents the form of the letter T. The portion fronting Baird Street consists of a basement, with three floors and attics, and the back portion of three floors and attics. The buildings are wholly constructed of brick, rough-cast on the outer face, with the exception of a base course, 4 feet 6 inches high, which is faced with white freestone. The upper floor and attics have hollow walls, and the plaster on the inner faces, for a distance of five feet from the floor, is rendered directly on to the wall without strapping. All the corners are rounded, and there are no cornices in the sleeping apartments. The sleeping accommodation in the former is provided in dormitories, while in the latter two of the floors are occupied by bedrooms, and the upper floor may be used as a nursery. A double staircase is provided between the front and back portions of the building. Each section gives access to both front and back blocks; and there is also a staircase in the rear of the latter, so that, for administrative purposes, the building is capable of being worked in three separate portions, should the exigencies of infection demand this.

A special feature of the reception-house is the provision of bedroom accommodation, in which it is intended to accommodate either single families or, if need be, women and children, while men and boys may be restricted to the dormitory section of the front building.

DETAILS OF ACCOMMODATION.

Basement Floor.—This extends below the whole of the front portion of the building, and provides accommodation for the heating chamber, coal-house, and stores for the inmates' clothing and bedding. A front space here has also been so finished that it may form a playground for children in wet weather.

Ground Floor.—On this floor will be provided a separate dining room and day room and lavatories for each sex, together with a day room, business room, and bed room for the matron, cleaners' bed rooms and dining room, and the general kitchen, scullery, pantry, larders, and store rooms. Steam cooking apparatus is provided, in addition to a large range and a small gas stove.

First and Second Upper Floors.—In the front block these are divided into male and female dormitories, having separate staircases and lavatories and attendants' rooms. The first and second floors of the back block are divided into separate bed rooms, which may be reached by a separate staircase to the south. This block is provided with bath rooms and lavatories, with a dining room and day room on the ground floor. The attic floor of the back block is intended for a nursery, and one-half of the front block is reserved for boys, the other being divided into cubicles for male adults.

The accommodation for inmates is distributed as follows:—

Front Block—		
First Floor,	Male Dormitory,	21 beds.
	Female ,,	21 ,,
Second Floor,	Male ,,	21 ,,
	Female ,,	21 ,,
Attic Floor,	Male ,,	24 ,,
Back Block—		
First Floor	(10 Bedrooms),	30 ,,
Second Floor	(10 ,,).	30 ,,
Attic Floor	(Nursery Section),	22 ,,
Total adult accommodation,		190 beds.

If allowance is made for the usual proportion of children, the number which may be accommodated will be 300.

STAFF ACCOMMODATION.

Accommodation is provided for matron, cook, scullery maid, eleven cleaners, and two male servants.

ADMISSION BLOCK.

A separate entrance from Black Street is provided for admission purposes, and this leads to the bathing or admission block, which is detached from the rest of the building, and situated in the southern portion of the ground. From this, entrance is obtained to separate suites of baths, four in number, with undressing and dressing rooms, which latter give access internally to the airing courts. Provision is also here made for a fumigating chamber and clothing store, with wash-house and laundry for staff clothing.

COMMUNICATION BETWEEN FLOORS.

An electric lift is provided for the use of the older inmates, and for taking bedding, &c., to the various floors; also a chute having doors at each floor level, down which the soiled linen is passed to the ground floor.

HEATING.

The heating is by means of 4-inch diameter hot-water pipes provided throughout the building, and the hot water for both domestic and heating purposes is supplied by means of calorifiers connected to the boiler.

VENTILATION.

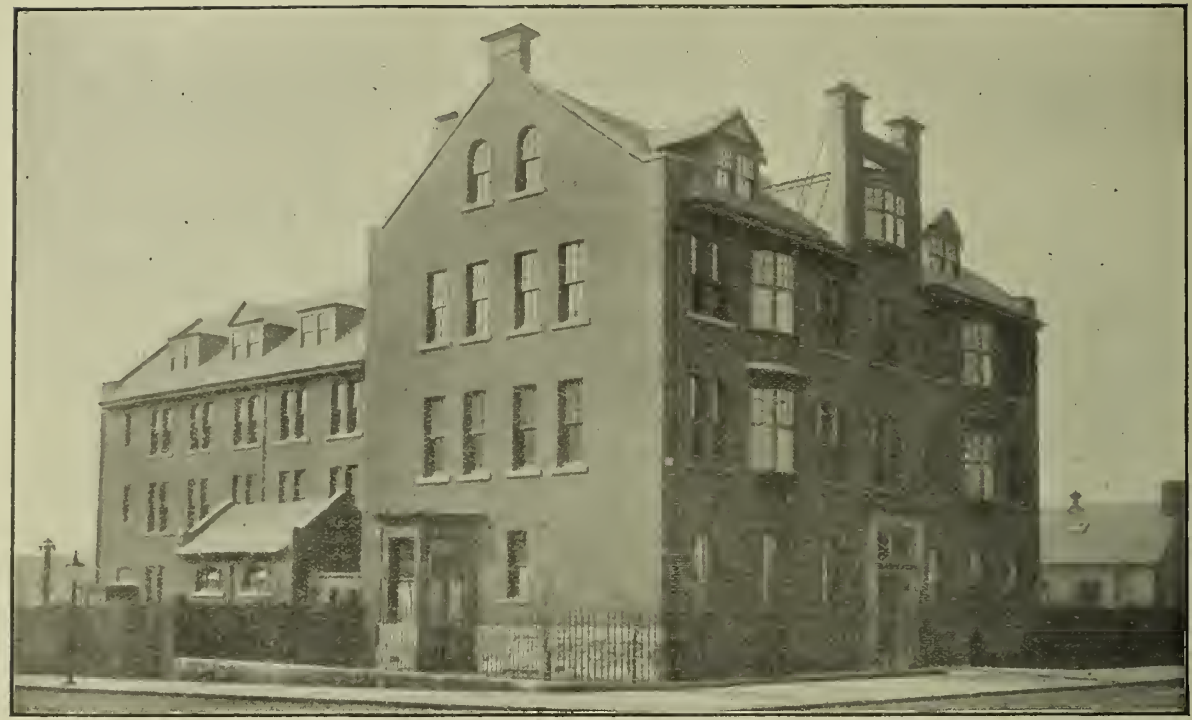
This is by means of two electric fans, placed in a fan room over the staircases, one for the front and the other for the back portion of the building. Air ducts in each apartment communicate with a central channel, which leads to the fan room.

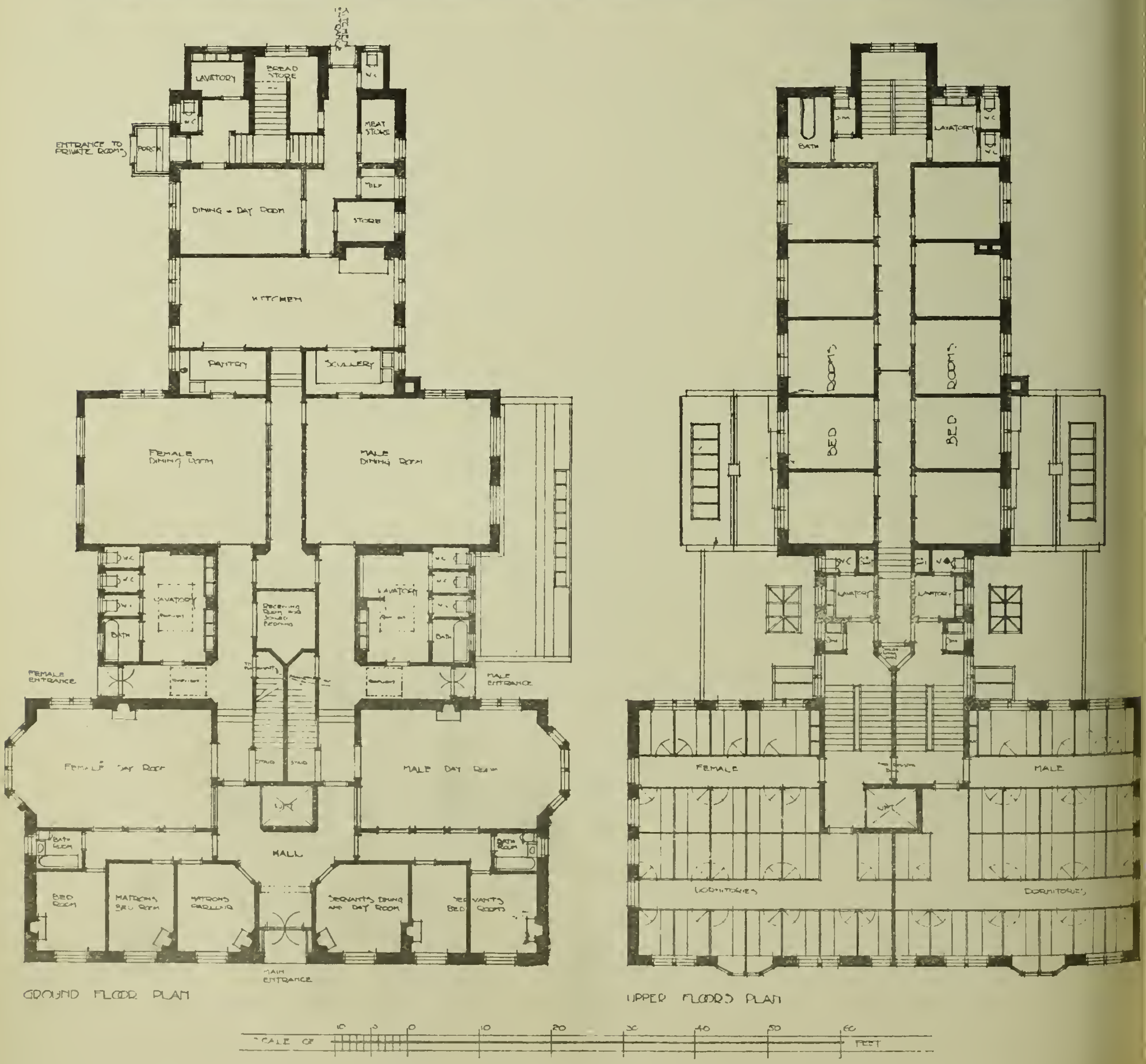
AIRING COURTS.

Separate airing courts are provided for males and females, and a maypole has been erected in the female airing court for children.

The total cost, including furnishings, is estimated to be about £11,000, while the cost per bed will be about £57 per adult bed.

The plans have been prepared under the direction of Mr. A. B. M'Donald, M.Inst.C.E., City Engineer.





GROUND FLOOR PLAN

UPPER FLOORS PLAN

REMOVALS BY PUBLIC CONVEYANCE OF PERSONS DEAD OF INFECTIOUS DISEASE (GLASGOW POLICE (AMENDMENT) ACT, 1890, SEC. 11).

Twelve permits were granted for the removal by rail or steamer of the bodies of persons who had died from infectious disease.

INTERMENTS IN CLOSED BURYING-GROUNDS.

Thirteen permits for interment in the closed burying-grounds of the City were granted during the year.

FRESH-AIR FORTNIGHT.

The lists of the children to be sent to the homes in connection with the Glasgow United Evangelistic Association were, as usual, submitted by the convener of that organisation for inspection, and those children residing in infected tenements were refused for the time being. The homes of all children admitted to Eastpark Cottage Homes for Infirm Children have also been visited and reported on, as were also the homes of boys belonging to Glasgow granted leave of absence from the training ship "Empress."

SECTION III.

REPORT OF WORK AT BOARDING STATION, PRINCE'S PIER. GLASGOW PORT LOCAL AUTHORITY.

GREENOCK, 1906.

In the following report, which has been prepared by Dr. Wilson, he very properly directs attention to the conditions affecting the health of seamen on British and Foreign ships respectively, and shows that in both sailing and steam ships much remains to be accomplished in order to raise the standard of accommodation for seamen in our merchant service:—

During the year 1906 (1st January to 31st December), 2,063 vessels have been entered on the daily register as having been dealt with at the Boarding Station, Greenock, representing an average per twenty-four hours' watch of 5·66 vessels.

In 1905 the vessels dealt with numbered 2,010, or an average per twenty-four hours' watch of 5·5 vessels.

CONDITIONS OF WORK AT BOARDING STATION.

The Staff.—Two Boarding Medical Officers and two Assistant Sanitary Inspectors.

Watches.—Two of twenty-fours each, consisting of one Boarding Medical Officer and one Sanitary Inspector.

Class of Vessels Boarded.—All vessels from foreign ports bound for Glasgow, by night or day, whether direct or after having called at home ports.

"Bound for Glasgow" includes vessels to the harbours within the Glasgow Customs port.

Means of Boarding Vessels.—(1) The use of the launch "Nathaniel Dunlop," shared with the Greenock and Glasgow river pilots; and (2) under certain circumstances, the Customs launch "Clyde."

With regard to the "Clyde," an agreement has been come to between the Customs Authorities and the Pilot Board that when one launch is off duty the remaining one shall do the work of both. This is a mutual advantage, but, in case of a rush of vessels coming together, one or two occasionally escape us if only one launch is available. When this happens, a telephone message is sent to Glasgow, and the vessels are examined on their arrival in dock.

TABLE NO. I.—NUMBER of SHIPS ARRIVING from FOREIGN PORTS—YEAR 1906.

CLASS.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
(A)													
H.M. Customs, ...	133	97	114	108	115	176	106	112	122	113	82	151	1,429
(B)													
Number of foregoing from Ports infected within the meaning of the Cholera Order, ...	22	17	23	18	19	30	27	21	29	16	9	19	250
(C)													
From infected Ports, but reaching Clyde "light"—boarded under Article 8 of Order, ...	23	23	19	27	22	37	32	18	19	21	31	30	302

TABLE 2.—NUMBER of ARRIVALS BOARDED and of PERSONS INSPECTED at BOARDING STATION, 1906.

CLASS.	January.			February.			March.			April.			May.			June.			HALF-YEAR TOTAL.		
	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.
From Infected Ports— (B) With Foreign Cargo, ...	22	1,302	1	17	1,146	2	23	1,054	...	18	1,094	3	19	1,131	13	30	1,625	53	129	7,352	72
(C) Light or with Outward Cargo,	23	1,075	...	23	1,150	3	19	1,120	...	27	1,351	5	22	1,242	192	37	1,746	3	151	7,684	203
Total of B and C,	45	2,377	1	40	2,296	5	42	2,174	...	45	2,445	8	41	2,373	205	67	3,371	56	280	15,036	275
(D) From Non-infected Foreign Ports,	125	3,663	549	105	3,108	666	120	3,447	447	112	3,825	897	115	3,651	1,199	178	7,012	3,533	755	24,706	7,291
	170	6,040	550	145	5,404	671	162	5,621	447	157	6,270	905	156	6,024	1,404	245	10,383	3,589	1,035	39,742	7,566

CLASS.	July.			August.			September.			October.			November.			December.			HALF-YEAR TOTAL.		
	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew,	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.	Ships	Crew.	Pass.
From Infected Ports— (B) With Foreign Cargo, ...	27	949	4	21	1,287	14	29	1,656	46	16	916	9	9	583	1	19	1,159	...	121	6,550	74
(C) Light or with Outward Cargo,	32	1,279	2	18	909	8	19	963	2	21	1,166	3	31	1,501	4	30	1,557	5	151	7,375	24
Total of B and C,	59	2,228	6	39	2,196	22	48	2,619	48	37	2,082	12	40	2,084	5	49	2,716	5	272	13,925	98
(D) From Non-infected Foreign Ports,	100	3,865	2,403	122	4,363	1,900	126	4,208	1,197	122	4,524	1,197	119	3,980	1329	167	5,166	2,132	756	26,106	10,158
	159	6,093	2,409	161	6,559	1,922	174	6,827	1,245	159	6,606	1,209	159	6,064	1334	216	7,882	2,137	1,028	40,031	10,256

CLASS.	YEAR'S TOTAL.		
	Ships.	Crew.	Pass.
From Infected Ports— (B) With Foreign Cargo, ...	250	13,902	136
(C) Light or with Outward Cargo.	302	15,059	227
Total of B and C,	552	28,961	373
(D) From Non-infected Foreign Ports,	1.511	50.812	17,449
	2,063	79,773	17,822

Table 1 shows first, in Class A, the vessels boarded by H.M. Customs Officers during 1906. They number 1,429, as compared with 1,473 in 1905.

The difference between the number of vessels boarded by the Customs Officers and the Port Local Authority Officers during the year—viz., 1,429, as compared with 2,063—is due to a difference in the class of vessels dealt with by the two Authorities. Whereas the officers of both visit all foreign-going vessels, the Customs deal only with those directly from foreign ports and those from foreign *via* home ports (coastwise) which have cargo from foreign ports on board.

The Port Local Authority Officers board and examine all vessels from foreign, whether direct or coastwise, with or without foreign cargo.

In Table I., Classes B and C show the number of vessels which have arrived at the Tail-of-the-Bank bound for Glasgow from ports infected within the meaning of the Cholera Order of 1896—*i.e.*, infected with cholera, yellow fever, or plague.

Classes B and C represent respectively the number of vessels arriving per month from infected foreign ports, the former with, and the latter without foreign cargo. Class B, with cargo, shows a total for the year of 250 vessels, and Class C, without cargo, of 302 vessels.

Class B consists largely of vessels direct from foreign ports to Glasgow with import cargo. Class C consists of "light" vessels—*i.e.*, vessels either in ballast or carrying export cargo from other home ports. They are proceeding to Glasgow to complete loading export cargo for their outward voyage.

Table 2 shows the number of vessels classed under B, C, and D which have arrived each month, half-year, and during the whole year 1906.

Class D includes all other vessels boarded than those in Classes B and C. They are from non-infected foreign ports, and may or may not carry foreign cargo. Table 2 further shows the number of crews and passengers carried by the vessels classed as above, and which on their way to Glasgow have been examined and passed at the Boarding Station during the year 1906.

I should here mention that, in case of vessels carrying a surgeon, his certificate of exemption from disease on the vessel during the voyage and on arrival is accepted by the Boarding Medical Officer in lieu of an examination of the log or a muster and medical examination of crew and passengers, when such muster or examination might delay the vessel.

With regard to Tables 1 and 2, a point worthy of note, and which may be referred to again, is the similarity of the totals for the different classes of vessels.

	Year 1905.	Year 1906.
Class A,	1,473	1,429
„ B,	290	250
„ C,	315	302
„ D,	1,405	1,511

Reasons for Similarity in Totals.

The vessels arriving and departing to and from the Port of Glasgow from foreign ports are practically the same year by year. They mostly run on regular routes, and make about the same number of voyages each year. What difference there is in the totals is made up by tramps, both British and Foreign, with no regular route, and the natural increase from building of new vessels.

TABLE 3.—NUMBER and NATIONALITY OF SHIPS and CREW INSPECTED, 1906.

	Ships.	Crew.
British,	1,587	73,785
Natives of India,	—	15,238
Chinese,	—	2,174
Malays,	—	37
West Africans,	—	6
Norwegians,	221	3,321
Swedish,	58	1,149
Spanish,	67	1,604
French,	31	691
Danish,	15	188
Greek,	6	148
Austrian,	14	341
Italian,	18	425
German,	29	383
Belgian,	7	78
Hungarian,	1	26
Dutch,	3	48
American,	1	43
Argentine,	1	24
Uruguayan,	1	22
Siamese.	1	15
Russian,	2	27
Total,	2,063	79,773

Year.	Ships.	Crew.	Passengers.
1904,	2,067	72,997	10,741
1905,	2,010	75,468	13,156
1906,	2,063	79,773	17,822

Table 3 amplifies Table 2 by showing the nationalities of the vessels included in Classes B, C, and D, and the number and nationalities of the crews by which they were manned, and which were medically examined at the Boarding Station during the year.

The comparison, as shown with the corresponding numbers for the year 1905, shows an increase for 1906, and again the close similarity of totals for each year. Natives of India, Chinese, Malays, and West Africans all formed part of the crews of British vessels, and the number under the head "British Crews" includes cattlemen and "mixed" crews—*i.e.*, an occasional foreigner amongst an otherwise British crew.

The enormous difference in the number and size of British and foreign owned shipping is seen by the fact shown in Table 3, viz.:—that the 1,587 British ships were manned by 71,240 British seamen, including natives of India, Chinese, Malays, and West Africans, or an average of nearly 45 men per ship, whereas the 476 foreign-owned vessels were manned by 8,533 men, or an average of nearly 18 men per ship.

Table 4 shows the registered tonnage of the 2,063 vessels dealt with during the year, dividing them into three groups for comparison. The groups are—(*a*) Foreign (direct) and Foreign (coastwise), (*b*) British (owned) and Foreign (owned), (*c*) steam and sailing.

The word "foreign" is used in groups (*a*) and (*b*) with different meanings. In group (*a*) it is used as indicating vessels "direct" from foreign ports. In group (*b*) it is used in its ordinary sense, viz., in relation to the national flag carried, or ownership.

TABLE 4.—NUMBER, CLASS, and TONNAGE of VESSELS INSPECTED.

Voyage.	Nationality.	Class.	No. of Vessels.	Registered Tonnage.
Foreign.	British.	Steam, ...	814	1,527,430
		Sailing, ...	12	7,524
	Foreign.	Steam, ...	206	201,033
		Sailing, ...	29	29,946
Coastwise.	British.	Steam, ...	745	1,599,601
		Sailing, ...	16	24,073
	Foreign.	Steam, ...	231	165,160
		Sailing, ...	10	7,936
			2,063	3,562,703

British Steamships from Foreign—"Direct" and "Coastwise."

Table 4 for 1906, as for the year 1905, points to the greater tonnage and size of the foreign "coastwise" British-owned vessels than of the foreign "direct" British-owned vessels. The former (coastwise) are 69 fewer in number than the latter (direct), but the "coastwise" vessels average 2,147 tons per vessel, whereas the "direct" vessels average only 1,889 tons per vessel.

As suggested in last year's Report, the above fact would appear to indicate that the export shipping trade of Glasgow is greater than the import. It must be remembered, however, that the "registered" and "gross" tonnage—*i.e.*, the Board of Trade measurements and the actual carrying capacity of the vessel—bear a very irregular relation to each other or the size of the vessel, so that even an "indication" from such a table must be accepted with reservation. In any case, the vessels of larger tonnage, having already called at other home ports, are mostly "light" on arrival here, and are on their way to Glasgow to load export cargo.

Foreign-owned Steamers—"Direct" and "Coastwise."

Table 4 for 1906 bears out a similar point in connection with foreign-owned steamers—direct and coastwise—noted last year in the same Table for 1905, viz.:—that the "direct" vessels average 976 tons per vessel, whereas the "coastwise" average only 715 tons per vessel.

The probable explanation of this circumstance is that the "direct" foreign-owned vessels consist chiefly of large Spanish, French, Italian, and Austrian vessels loaded with ore, fruit, grass, &c., direct for Glasgow, whereas the "coastwise" vessels consist of the smaller Norwegians, Swedes, Germans, and Danes, carrying coasting cargo, or empty.

Imports and Exports—Glasgow.

With regard to the import and export trade to and from the Port of Glasgow by foreign-going vessels, our statistics give little or no authentic information beyond what has been already stated *re* tonnage. As, however, greater accommodation and facilities for unloading and loading foreign-going vessels have been provided by the opening of the Rothesay Dock, it will be interesting to note the effect of this on the shipping of the current year.

SANITARY CONDITION OF VESSELS.

TABLE 5.—Number and Nationality of Vessels in which Defects were found during the Year 1906.

Nationality.	Nuisances Found on—	
	Steam.	Sailing.
British, ...	288	7
Norwegian, ...	26	3
Swedish, ...	8	...
Spanish, ...	16	...
French, ...	2	3
Italian, ...	5	...
Austrian, ...	5	...
German, ...	2	...
Danish, ...	1	1
Greek, ...	1	...
Belgian, ...	1	...
Total, ...	355	14

Nationality.	Total No. of Vessels.	Total No. with Defects.	Percentage of Ships with Defects or Nuisances.
British—			
Steam, ...	1,559	228	18·4 per cent.
Sailing, ...	28	7	25·0 „
Foreign—			
Steam, ...	437	67	15·3 per cent.
Sailing, ...	39	7	18·8 „

Sanitary Condition of Vessels.

Tables 5 and 6 represent the work of inspection of vessels done at the Boarding Station during 1906.

The actual work of inspection is necessarily of an irregular nature, on account of the irregularity of the time available. Some vessels go to anchor, giving plenty of time for inspection. Some, to avail themselves of a tide, hurry on to Glasgow, giving little or no opportunity for inspection. Others cannot be boarded on account of severity of weather.

The following Table gives the proportions and relative numbers inspected "Carefully," "Partially," &c., as compared with the year 1905 :—

TABLE of INSPECTION of VESSELS.

	1905.		1906.	
	Steam.	Sailing.	Steam.	Sailing.
(*a*) Carefully inspected, ...	993	36	686	21
(*b*) Partially inspected, ...	878	38	1,189	45
(*c*) Boarded but not inspected, ...	31	1	97	1
Hailed, ...	7	2	10	...
(*d*) Not boarded, ...	20	4	14	...
	1,929	81	1,996	67
	81		67	
Total, ...	2,010	Total.	2,063	

I have already stated the fact that the same vessels are frequently boarded several times in the course of a year. The result of this should be observable in a lessening of the total number of defects and nuisances found on these vessels.

A comparison of Tables 5 and 6 for 1905 and 1906 would seem to indicate such a result, but not so markedly as might have been expected.

TABLE 6.—1906.—480 DEFECTS OR NUISANCES ON 369 SHIPS.

BRITISH VESSELS.

(a) Due to Structural Defects.

Nature and Site.	Steam.	Sail.
Forecastles.		
Insufficient heating, ...	6	—
Do. lighting, ...	5	—
Do. ventilation,	11	—
Sweating (sheathing required), ...	8	—
Scuppers plugged or too high, ...	4	—
Gear lockers without bulkhead, ...	3	—
Anchor chains uncovered,	1	5
Overcrowding, ...	2	—
No food lockers,... ...	1	—
Water tanks in forecastles,	1	—
Steering-gear open to men's quarters aft, ...	1	—
Water-closets.		
Badly situated, ...	1	—
Decks.		
General condition.		
Totals, ...	44	5

(b) To Repairs Required.

Nature and Site.	Steam.	Sail.
Forecastles.		
Bogeys broken, ...	12	1
Hawse or overhead deck leaking, ...	34	2
Ports leaking, ...	30	—
Doors off food lockers, ...	30	1
Heating apparatus leaking, ...	7	—
Water-closets.		
Seats broken, ...	1	—
Port-hole glass broken,...	1	—
Decks.		
General condition.		
Totals, ...	115	4

(c) To Neglect.

Nature and Site.	Steam.	Sail.
Forecastles.		
Dirty, and requiring a coat of paint, ...	34	—
Gear stored in bunks, ...	6	—
Ventilators plugged, ...	2	—
Water-closets.		
Choked and dirty, lime-wash advisable, ...	27	—
Gear stored therein, ...	4	—
Flush-pipe choked and out of use, ...	1	—
Scuppers choked, ...	1	—
Decks.		
Accumulation of rubbish,	1	—
Do. of manure,	138	—
General condition.		
Dirty, ...	1	—
Bilges and water-tanks unclean, ...	2	—
Totals, ...	217	—

Nationality.	Class.	Total No. of Vessels.	No. with Nuisances.	Percentage of Ships with Defects.
British—	Steam, ...	1,559	288	18·4 per cent.
	Sail, ...	28	7	25·0 ,,

FOREIGN VESSELS.

(a) Due to Structural Defects.

Nature and Site.	Steam.	Sail.
Forecastles.		
Insufficient heating, ...	1	—
Do. lighting, ...	3	—
Do. ventilation,	4	—
Forepeak hatch in a dangerous position, ...	1	—
Anchor chains uncovered,	1	—
Forecastle badly situated,	1	—
Overcrowding, ...	2	—
Water-closets.		
Badly situated, ...	1	—
W.C.'s insufficient, ...	—	1
Construction bad, ...	—	1
Decks.		
Steam-pipe unprotected,	1	—
General condition.		
Totals, ...	15	2

(b) To Repairs Required.

Nature and Site.	Steam.	Sail
Forecastles.		
Bogeys broken, ...	5	—
Overhead deck and hawse-pipe leaking, ...	5	—
Ports leaking, ...	4	—
Doors off food lockers, ...	4	—
Water-closets.		
Wood-work rotten, ...	1	—
Decks.		
General condition.		
Totals, ...	19	—

(c) To Neglect.

Nature and Site.	Steam.	Sail.
Forecastles.		
Dirty, and requiring a coat of paint, ...	15	2
Gear stored in bunks, ...	6	2
Ventilators plugged, ...	—	1
Water-closets.		
Choked, dirty pan, corroded, lime-wash, ...	19	2
Gear stored therein, ...	5	—
Scuppers choked, ...	1	—
Decks.		
Dirty, ...	1	—
General condition.		
Dirty.	1	—
Galley dirty, ...	—	1
Bilges and water-tanks unclean, ...	3	—
Totals, ...	51	8

Nationality.	Class.	Total No. of Vessels.	No. with Nuisances.	Percentage of Ships with Defects.
Foreign—	Steam, ...	437	67	15·3 per cent.
	Sail, ...	39	7	18·8 ,,

Year.	No. of Vessels.	Defects of Nuisances.
1905,	410 or 20·4 per cent. of the whole.	629
1906,	369 or 17·8 per cent. of the whole.	480
Difference,	41	149

It should be noted that in both cases the number of vessels stated includes cattle ships, the nuisances on board being an accumulation of manure. In 1905 the cattle ships numbered 137, and in 1906, 138. In 1905, on 15 of these, 22 other nuisances were reported, and in 1906, on 9, 14 other nuisances were reported.

Without the cattle ships, defects were found in 13 per cent. of British vessels in 1905, and in 10·4 per cent. in 1906. The same reduction is visible in the foreign vessels. In 1905, 19 per cent. showed defects, whereas in 1906 the percentage was 15·5 per cent.

Table 6 shows the distribution of the 480 defects or nuisances reported on 369 vessels, British and Foreign.

NATIONALITY.	Total Number of Vessels.	Number with Defects.	Percentage of Ships with Defects.
British—			
Steam,	1,559	288	18·4 per cent.
Sailing,	28	7	25·0 per cent.
Foreign—			
Steam,	437	67	15·3 per cent.
Sailing,	39	7	18·8 per cent.

From the above figures one notes that the percentage of defects on British vessels—steam and sailing—is considerably greater than that on similar foreign vessels. With regard to the steamships, however, it must be remembered that, of the 288 British vessels with defects, 138 are cattle ships, only 9 of which had any other insanitary condition than an accumulation of manure, which is more or less an inevitable condition on such vessels, but none the less insanitary, especially when, from over accumulation, it is spread through forecastles and the very limited sleeping and eating accommodation of the crew and cattlemen.

The smell from such a vessel anchored nearly a mile away has been noticed on Princes Pier, and, when it is remembered that these vessels carry passengers, the conditions, at best, can hardly be approved of as either sanitary or suitable. Deducting these, then, the percentage of British vessels—steam and sailing—with defects is reduced to 10·4 per cent. This does not apply to sailing ships, however, and in them the difference is even more marked—British, 25 per cent., and foreign, 18·8 per cent.

In this relation it may be interesting to compare some of the defects found in British and foreign vessels, as shown in Table 6.

Some of the structural defects common to both are—insufficient heating, insufficient lighting, insufficient ventilation, anchor chain uncovered, and overcrowding.

These defects number 30, or 7·7 per cent. of the total defects found on British vessels. On foreign vessels they number 11 or 11·5 per cent. of the total.

"Neglect" and "repair" defects—*e.g.*, broken bogeys, decks leaking, ports leaking, doors off food lockers, dirty forecastles, gear stored in bunks. These total 152, or 39·4 per cent., on British vessels, and 44, or 46·3 per cent., on foreign vessels. The above figures with regard to such defects show only a slight difference in the respective conditions of British and foreign vessels. One defect, viz., sweating, recorded on 8 British vessels, does not appear to have been found in any foreign vessels, and, having previously observed this fact, on discussing same with Dr. Chalmers, the addition of the particulars of means adopted to prevent this special defect were added to the others anent the inspection of accommodation.

The figures, so far as available, cover a period of less than a month, but in this short period they bear out the fact that the crews of foreign vessels are more carefully safeguarded against this troublesome inconvenience than those of British vessels. The actual cause of sweating in the sleeping accommodation of steel and iron vessels is a debatable point, but that wood sheathing or granulated cork (lining) helps to abate it is a well-known fact. The examination from 7th July to 2nd August, which includes 112 vessels so inspected, shows a percentage of "all wood sheathed" in foreign vessels of 81·8 per cent., and in British of 37·7 per cent. The other methods of remedying sweating are partial sheathing—*i.e*, wood lining on the overhead decks over the bunks or down the sides below the port-holes—and granulated cork lining, the latter being by far the best, on account of the fact that it cannot harbour either filth or vermin. The wood lining is undoubtedly the favourite of the foreigner, and the cork lining of the Britisher.

Many of the defects tabulated in Table 6 under the heads of "Repairs" and "Neglect" are, without doubt, due to the careless habits of the firemen and seamen themselves. They are in the habit of finding cramped, ill-ventilated, and insufficient accommodation, and of expecting the natural results, which, however, they could often do more to prevent than they do. They thus naturally fall into a sort of "vicious circle" in which their physical and moral conditions and their surroundings act and react upon each other.

British owners and captains complain of the troublesomeness of British seamen and firemen, but one might ask if, supposing the British owner and captain provided more suitable accommodation and reasonable conditions of work for a decent crew, whether such men might not soon present themselves and show their appreciation of such improvements by an additional anxiety to keep a good job when they got it.

In this relation there is reason for congratulation that an Amendment of the Merchant Shipping Act of 1894 has been issued, and that so able and experienced a sanitarian as Dr. Herbert Williams, of the Port of London, should have lent his aid and advice, suggesting not only the very necessary increase of the living space in forecastles, but also separate messrooms and bathrooms for the crew, improved ventilation, lighting, &c. Such methods would soon end the defects reported under the heads "Structural Repair" and "Neglect."

Up to the present time no consideration has been devoted by the Port Local Authority to the vessels bound for Glasgow from home ports—*i.e.*, vessels altogether engaged in the home trade. They are a very numerous class, and consist of small steam tramps, schooners, &c., and my experience of them is that many are very dirty, very much overcrowded, and very much in want of sanitary inspection. Like the foreign-going vessels, they are fairly regular on their trade routes. What influence they may have in carrying disease is matter for investigation.

TABLE 7.

Return of INFECTIOUS Disease occurring during Voyage.

Diseases.	Total Number of Cases.	Cases Found on Arrival.	Cases Occurring during Voyage but dealt with Elsewhere.	Number of Deaths.
Enteric, ...	10	6	4	1
Smallpox, ...	15	...	15	1
Scarlet Fever, ...	3	3	...	...
Measles, ...	9	8	1	1
Diphtheria.	2	...	2	1
Erysipelas, ...	1	1	...	...
Trachoma, ...	19	19	...	...
Chickenpox, ...	3	1	2	...
Bubo (Suspicious), ...	4	...	4	1
Beri-Beri, ...	10	9	1	2
Pneumonia, ...	7	2	5	3
Phthisis, ...	14	8	6	5
Dysentry, ...	6	2	4	1
Mumps, ...	9	1	8	0
Influenza, ...	8	...	8	...
Malaria, ...	3	1	2	2
Unknown, ...	1	1	...	1
Totals, ...	124	62	62	19

TABLE 8.

RETURN OF NON-INFECTIOUS DISEASE OCCURRING DURING VOYAGE.

DISEASES.	Total Number of Cases.	Cases Found on Arrival.	Cases Occurring during Voyage but dealt with Elsewhere.	Number of Deaths.
Favus, ...	5	5	—	—
Epilepsy, ...	1	1	—	—
Acute Peritonitis, ...	1	1	—	—
Chancres (Bubo, &c.).	9	9	—	—
Appendicitis, ...	3	3	—	—
Syncope (Heart Failure), ...	5	—	5	5
Nephritis, ...	1	1	—	—
Conjunctivitis Iritis, ...	2	2	—	—
Scurvy, ...	1	1	—	—
Rheumatism, ...	5	5	—	—
Heat, and other Apoplexy, ...	3	—	3	2
Insane, ...	2	2	—	—
Bronchitis, ...	7	7	—	1
Paralysis, ...	2	2	—	—
Observation, ...	3	3	—	—
Delirium Tremens, ...	1	1	—	—
Chronic Bright's, ...	1	1	—	—
Pleurisy, ...	2	—	2	2
Ulcers (Varicose), ...	2	2	—	—
Sciatica, ...	1	1	—	—
Exophthalmic Goitre, ...	1	1	—	—
Gastric Catarrh, ...	1	1	—	—
Fracture of Ribs, ...	1	1	—	—
TOTALS, ...	60	50	10	10

CASES OF SICKNESS, 1906.

Enteric Fever.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Jan.	S.S. "Kendal" (British)	Bilbao	1	Case only one of suspicion. Sent to Belvidere Hospital for observation.
April	S.S. "Olympia"	Bombay	1	Isolated on board. Removed at Suez, 10th March. All clothing, &c., landed also.
June	S.S. "City of Glasgow"	Calcutta	1	Removed at Suez. Died 21/5/06. Ship disinfected.
,,	S.S. "Numidian"	Montreal	1	Removed to Belvidere Hospital. Disinfection and washing done.
July	S.S. "Silician"	Montreal & Quebec	1	Removed to Belvidere Hospital. Ship's hospital disinfected and washing done.
Aug.	S.S. "Corinthian"	Montreal	1	Isolated in ship's hospital. Removed to Belvidere Hospital. Ship disinfected.
Sept.	S.S. "Clan Macdonald"	Calcutta	1	Removed at Liverpool.
,,	S.S. "Columbia"	New York	1	Removed to Belvidere Hospital.
Oct.	S.S. "Iberia"	Almeria	1	Case uncertain. Removed for observation.
Dec.	S.S. "Irrawaddy"	Rangoon & Calcutta	1	Saloon passenger. Isolated in her cabin. Removed to hospital, Dundee. Ship disinfected by Port Local Authority.
			10	

Four cases of enteric fever were removed to Belvidere Hospital for treatment. Two other cases supposed to have been suffering from enteric were sent to Belvidere Hospital for observation. The remaining four occurred during the voyage, and were removed and treated in other hospitals. One of the cases removed died at Suez.

Smallpox.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Clan Sutherland"	Chittagong	1	Removed at Suez on 9th January and ship disinfected. Crew re-vaccinated by Port Medical Officer at Dunkirk.
,,	S.S. "Clan Mackinnon"	Calcutta	1	Isolated on board. Ship disinfected at sea by officers. Crew refused vaccination in London and Glasgow.
,,	S.S. "City of York" (British)	Calcutta	1	Case isolated. Quarters disinfected at sea. Patient and attendant removed at Colombo. All crew vaccinated or re-vaccinated.
Mar.	S.S. "Clan Macaulay"	Madras Coast	1	Ship disinfected and crew vaccinated at Colombo by Port Local Authority. Case landed there.
April	S.S. "Assyria"	Calcutta	2	Isolated on board. Landed at Suez. Crew vaccinated. All well on arrival here.
	Carry	*forward,*	6	

SMALLPOX—*Continued.*

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
	Brought	*forward,*	6	
May	S.S. "City of Agra"	Bassein and Colombo	1	Removed to hospital in Bassein. Ship fumigated and disinfected.
,,	S.S "Clan Stuart"	Calcutta and Chittagong	4	Two suspicious cases landed at Chittagong, one at Suez, and one at London. Ship disinfected by Port Local Authority, London.
June	S.S. "Heraclides"	Buenos Ayres	1	Isolated on Board. Removed at Liverpool. Ship disinfected by Port Local Authority. All on board vaccinated.
April	S.S. "Persia"	Calcutta, Colombo, &c.	1	Native fireman died and buried at sea. Ship disinfected and crew re-vaccinated at Calcutta by Port Local Authority's Medical Officer of Health.
,,	S.S. "Clan Macdonald"	Calcutta and Colombo	1	Case Removed at Colombo. Ship disinfected and crew re-vaccinated.
May	S.S. "City of Benares"	Calcutta and Colombo	1	Patient a passenger. Removed at Colombo. Crew re-vaccinated and ship disinfected by Port Local Authority.
			15	

All the above-mentioned cases occurred on the homeward voyage. One case died and was buried at sea. The others were all removed at foreign or home ports. All proper precautions, *e.g.*, careful examination of crews, re-vaccination, disinfection, &c., were always attended to on arrival of the infected vessels here.

BUBO.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Martaban" (British)	Rangoon	1	Examined at Liverpool. Non-pest (certified). Passed at Glasgow.
June	S.S. "Circassia"	Bombay	1	Removed at Suez. Ship disinfected.
Oct.	S.S. "City of York"	Bombay	1	Removed at Port Said. Word arrived later, case not plague.
May	S.S. "Pegu"	Rangoon	1	Case isolated at once. Died in two days (15/4/06). Buried at sea. Ship quarantined at Perim, and disinfected by Port Local Authority at Suez.
			4	

The last case mentioned, on the s.s. "Pegu," seems to have been the only one likely to have been plague. As no other cases followed, the means adopted for prevention were evidently successful. All the four cases occurred during the voyage, and only one was fatal.

SCARLET FEVER.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
April	S.S. "Columbia"	New York	1	Isolated in ship's hospital. Removed to Belvidere Hospital.
May	S.S. "Caledonia"	New York	1	Isolated on board. Removed to Belvidere Hospital.
June	S.S. "Numidian"	Montreal	1	Removed to Belvidere Hospital. Disinfection of vessel carried out in Glasgow.
			3	

All these cases were diagnosed on arrival, and sent to Belvidere Hospital for treatment.

ERYSIPELAS.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
April	S.S. "Furnessia"	New York	1	Removed to Belvidere, 10th April.

This was the only case reported during the year. It was reported on arrival, and sent to Belvidere Hospital.

BERI-BERI.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Jan.	S.S. "Clan Lindsay" (British)	Madras and Malabar Coast	2	One died, 27th December, 1905, Port Hospital, London. Other examined in Glasgow. Found convalescent.
April	S.S. "Prome"	Rangoon		One removed to Belvidere, and other left as being convalescent.
Aug.	S.S. "Clan Chisholm"	Madras and Antwerp	2	No isolation. Cases not very ill.
Oct.	S.S. "Clan Macneil"	Chittagong & Newport	1	Had been under treatment in Newport. Case able to move about.
,,	S.S. "Tydens"	China and Japan	1	Chinaman. Removed to Hospital in Glasgow.
Nov.	S.S. "Clan Chattan"	Bunbury	2	Both removed to Western Infirmary. One died. Ship disinfected by officers.
			10	

All the above cases were found on these vessels on arrival except one which had been sent to hospital in London. Two deaths occurred, one in London and one in Glasgow.

DIPHTHERIA.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
July	S.S. "Columbia"	New York	1	Isolated in hospital. Died. Hospital fumigated. Illness commenced 18th July, 1906. Died 18th July, 1906.
March	S.S. "Beryl"	Dublin	1	Removed Dublin. Rest of crew examined and swabs taken. Quarters disinfected by Port Local Authority.
			2	

One case occurred on the passenger steamship s.s. "Columbia." The patient, a child 3 years of age, died and was buried at sea. Isolation with disinfection followed, and no other case occurred. Information regarding the case on board the s.s. "Beryl" was wired from Dublin to Glasgow, where this vessel was dealt with by the Port Local Authority.

TRACHOMA.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Jan.	S.S. "Ethiopia"	New York	2	Deported Russian emigrants. Proceeding to Liverpool. Medical Officer of Health advised.
March	S.S. "Furnessia"	,,	1	Returned steerage passenger, *i.e.*, deported.
May	S.S. "Caledonia"	,,	1	Returned steerage passenger. Proceeding to High Street, Irvine.
,,	S.S. "Columbia"	,,	1	Deported steerage passenger. Proceeding to Glengarnock. Medical Officer of Health notified.
June	S.S. "Corinthian"	Montreal	1	Deported steerage passenger. Proceeding to Mossend.
,,	S.S. "Laurentian"	Boston	1	Deported steerage passenger. Proceeding to View Park, Bellshill, Glasgow.
July	S.S. "Columbia"	New York	2	Deported steerage passengers. One proceeding to his home in Glasgow, and one to Hango.
Aug.	S.S. "Astoria"	,,	1	Deported steerage passenger. Proceeding to Kudeuki, Russia.
,,	S.S. "Furnessia"	,,	2	Deported Russian Poles. Returning to Poland.
Sept.	S.S. "Columbia"	,,	3	Deported emigrants. Two proceding to Antwerp, and one to Bellshill.
Oct.	S.S. "Furnessia"	,,	1	Deported Russian Jew. Returning to Hango.
,,	S.S. "Caledonia"	,,	1	Deported Polish Jew. Returning to Stockholm.
Nov.	S.S. "Columbia"	,,	2	Deports. Proceeding to Carfin.
			19	

Six of the above had, before proceeding to the United States, been resident in Scotland, and returned to the neighbourhood of Glasgow. Two others returned to their former places of abode in Liverpool. In each case the Medical Officer of Health of the district was informed by the Port Medical Officer, Glasgow.

MEASLES.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Columbia"	New York	1	Isolated on board. Case removed to Belvidere Hospital. Quarters disinfected at sea.
Apr.	S.S. "Mongolian"	Boston.	3	All 3 cases removed to Belvidere Hospital, and quarters disinfected.
May	S.S. "Caledonia"	New York	1	Isolated in cabin on board ship. Removed to Belvidere Hospital.
Aug.	S.S. "Furnessia"	New York	1	Deported Russian Pole (age 3 years). Isolated on board, &c. Removed to Belvidere Hospital.
Sept.	S.S. "Carthagenia"	Montreal	1	Isolated on ship. Case convalescent.
Dec.	S.S. "Columbia"	New York	1	Isolated in ship's hospital. Quarters disinfected. Case removed to Belvidere Hospital.
Apr.	S.S. "City of Calcutta"	Karachi, Suez, &c.	1	Died, and body removed at Marseilles. Ship disinfected there.
			9	

Seven cases were removed to Belvidere Hospital for treatment. One was convalescent on arrival, and one died at sea. The body of the last was removed at Marseilles.

CHICKENPOX.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
May	S.S. "Massilia"	Bombay	2	One landed at Marseilles, and other at Liverpool. Ship disinfected as usual.
,,	S.S. "Clan Stuart"	Chittagong	1	Removed and sent to hospital, Glasgow. Other cases previously landed were suspected to have been smallpox.
			3	

Two cases were removed to hospital from the s.s. "Massilia" during voyage—one at Marseilles and one at Liverpool. Two cases of suspected small-pox had been landed from the s.s. "Clan Stuart" on this same voyage.

PNEUMONIA.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Clan Murray"	Madras Coast	1	Died, 19th February, and was buried at sea.
Mar.	S.S. "Clan Cameron"	Vizagapatam	1	Died, 8th March, at Dunkirk.
April	S.S. "Stenton"	China and Japan	1	Removed to hospital, Glasgow.
May	S.S. "Clan Macpherson"	Madras Coast	1	Removed to hospital, Glasgow.
April	S.S. "Scindia"	Bombay and Marseilles	1	Case recovered during voyage.
May	S.S. "Ghazec"	China and Japan	2	Both removed to Palmer's Hospital, Jarrow. One died, one recovered.
			7	

Five of the above cases occurred on the voyage and were removed to different hospitals. Three cases died, one of which was buried at sea.

MALARIA.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Clan Mackintosh"	Newport (Mon.)	1	Case was under treatment at Newport. Convalescent.
June	S.S. "Livonian"	Buenos Ayres	1	Died at Antwerp.
Dec.	S.S. "City of Manchester"	Calcutta	1	Died, 17th November, after being landed at Colombo.
			3	

One case was diagnosed on arrival, the other two had died after being left in foreign hospitals during the voyage.

PHTHISIS.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Jan.	S.S. " Olympia (British)	Bombay and Marseilles	1	Was in hospital, Bombay. Died at sea, and was buried December 25th.
,,	S.S. " Columbia (British)	New York	1	Died 2nd January. Buried at sea. Quarters disinfected with carbolocene, sulphur, &c.
March	S.S. " Laurentian "	Philadelphia	1	Removed to his own home in Glasgow. Quarters disinfected.
,,	S.S. " Clan Colquhoun "	Calcutta	1	Landed at Aden, 25th February, 1906.
April	S.S. " Furnessia "	New York	1	Isolated. Buried at sea, 8th April, 1906.
,,	S.S. " Ivanhoe "	Bilbao	1	Proceeded to his home in Glasgow.
July	Barque " Cordelia "	St. Johns, N.F.	1	Passenger. Berth disinfected. Proceeding to his own home in Glasgow.
,,	S.S. " Furnessia "	New York	1	Steerage passenger. Very advanced case. Proceeding to home in Glasgow. Ship's hospital disinfected.
,,	S.S. " Agamemnon "	China and Japan	1	Not a severe case. Dealt with in Glasgow.
,,	S.S. " City of Vienna "	Philadelphia	1	Proceeding to his home in Norway.
Oct.	S.S. " Furnessia "	New York	1	Died, and was buried at sea. Infected clothing, &c., thrown overboard.
,,	S.S. Caledonia "	,,	1	Isolated while on voyage. Proceeding to Manchester.
Nov.	S.S. " Rydal Hall "	River Plate and Galveston	1	Removed to his home in Glasgow.
Dec.	S.S. " Columbia "	New York	1	Died 2nd December. Buried at sea.
			14	

Six of the above cases occurred on the voyage. Five of these died, and were buried at sea, and one was landed in a foreign port. Of the remaining eight, six went to their homes in Glasgow, one to Manchester, and one, a Norwegian, went to his own country.

DYSENTERY.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
March	S.S. "Australia"	Bombay	1	Third officer. Removed in Bombay. Captain said patient had previously been in hospital and discharged cured.
Sept.	S.S. "City of Benares"	Calcutta	1	Removed to hospital on arrival.
"	S.S. "Almora"	Baltimore	1	Died and buried at sea. Ship well disinfected.
Oct.	S.S. "Clan Ferguson"	Chittagong	1	Removed to hospital at Newport (Mon.).
Nov.	S.S. "Arracan"	Rangoon	1	Landed and ship dealt with at Liverpool.
Dec.	S.S. "Irrawaddy"	"	1	A fireman (native). Case mild, and convalescent. Not removed.
			6	

Four cases occurred during voyage, one of which died and was buried at sea. The other three of the four mentioned were removed to foreign hospitals during the voyage. Of the two found on board on arrival, one was convalescent, and one was sent to hospital in Glasgow.

PAROTITIS.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Feb.	S.S. "Britannia"	Calcutta	1	Removed to Belvidere Hospital. Quarters disinfected.
July	S.S. "Clan Farquhar"	Madras Coast	7	Isolated on board as far as possible. Quarters disinfected daily. All convalescent on arrival.
June	S.S. "Clan Macfarlane"	Vizagapatam	1	Removed to hospital at Hamburg. Returned to ship in three days.
			9	

Of these nine cases of mumps, which disease seems to be rather prevalent in a modified form amongst Lascars, one was reported on arrival and sent to Belvidere Hospital. One had already been in hospital in Hamburg; and the slight epidemic which occurred on the s.s. "Clan Farquhar" had quite subsided on arrival here, all hands being well and on duty.

INFLUENZA.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
Oct.	S.S. "Laurentian"	Boston	8	All members of crew, and varied in severity. All were isolated, and no new case occurred within several days of arrival.
			8	

This slight epidemic commenced amongst passengers on the outward voyage.

UNKNOWN.

Date.	Name of Vessel.	Where from.	No. of Cases.	How dealt with.
May	S.S. "Mount Lebanon"	Alexandria	1	Vessel arrived on 28/5/06. Patient, a saloon passenger—a woman—died on 27/5/06. Body and clothing, &c., were removed to Belvidere Hospital.
			1	

A lady was taken on board (carried on board) ill at Alexandria. She died just before vessel arrived at the Tail-of-the-Bank. Report from Belvidere states case probably not infectious.

Cases of Infectious and other Diseases, 1906.

Table 7 gives a summary of all the infectious and other diseases met with on the vessels boarded during 1906.

The first group—Infectious Diseases—numbers 124. 62 of these occurred during the voyage, the cases having been removed to hospital and the vessels already dealt with by other Port Local Authorities. This was commented upon last year in connection with the great number of foreign-going vessels which arrive bound for Glasgow *via* home ports. It does not, however, lessen the responsibility of the Boarding Medical Officer here with regard to these vessels. Information is usually sent by the first Port Medical Officer of the occurrence of an infectious disease, and a more careful examination of the crew on board such an "infected" or "suspected" vessel is made on its arrival here, especially in case of plague or suspected plague, since, on account of possible infection of rats, no probable, or even possible, incubation period could be relied upon.

The cases (62 in number) found on arrival were reported to and dealt with in Glasgow, as were also the vessels.

The second group of diseases shown in Table 7 represents those met with by the Boarding Medical Officer in the course of his examination, and serves to show the various diseases to which seafarers are liable. They number 60, which, however, does not represent anything like all the cases which occurred during the year, since, being of secondary importance, they have not always been recorded in the disease book.

The deaths due to infectious diseases number 19, or a mixed case mortality of 15·3 per cent. Amongst the 60 "other" diseases recorded, 10 deaths occurred, or 16·6 per cent. mixed case mortality. So high a mortality, of course, emphasises the fact that only the more notable cases have been recorded.

Bacteriological and Chemical Laboratory.

In the Annual Report for 1905, suggestion was made of the desirability of the addition of a bacteriological laboratory to the offices of the Boarding Station, Prince's Pier.

This suggestion was supported by Dr. Chalmers, and the sketch plans and specifications, which were prepared with the help and advice of Dr. Chalmers and Dr. Buchanan, have been accepted and passed by the Committee.

The extension is to consist of a small bacteriological and chemical laboratory. When completed, this addition must prove of service to the work of the station and of advantage to the Boarding Medical Officers.

Onion Ships.

In last year's Report attention was called to the trade in onions which is carried on between this port and the north of France, and to the insufficient sleeping and latrine accommodation for the crew and for the relatively large number of onion sellers which these vessels carry.

The condition of these schooners continues as then reported. The following description applies to the schooner "Valentine," of Roscoff, a typical onion trader. This vessel carried a crew of 6, besides 23 onian sellers and 5 passengers —a total of 34 souls—while the sleeping accommodation consists of 5 bunks in the forecastle and 2 in the cabin aft. These sleeping quarters are not provided with any ventilation whatever.

The latrine accommodation consists of a wooden erection on deck on the port side, and is both defective in size and unsuitable in character. Regarding the provision for cooking, this is a wooden compartment on deck, amidships, containing an ordinary stove. The drinking water is stored in three barrels on deck, and was about a week old when seen.

The vessel is usually in a filthy condition.

SECTION IV.

(*E*) AN ACCOUNT OF THE HOUSE ACCOMMODATION OF THE LABOURING CLASSES IN THE BURGH, AND OF ANY PROCEEDINGS UNDER THE HOUSING OF THE WORKING CLASSES ACT OR OTHERWISE.

Housing of the Working Classes Act, 1890, Part II. (Sec. 30).

During 1906, 73 representations under Section 30 of this Act were submitted to the Local Authority affecting tenements in the following Wards:—

Wards.	No. of Representations.
I.—Dalmarnock,	1
II.—Calton,	3
III.—Mile-end,	14
IV.—Whitevale,	7
V.—Dennistoun,	2
VI.—Springburn,	1
VII.—Cowlairs,	1
VIII.—Townhead,	1
IX.—Blackfriars,	3
X.—Exchange,	3
XIII.—Anderston,	6
XIV.—Sandyford,	1
XVI.—Cowcaddens.	4
XVII.—Woodside,	1
XVIII.—Hutchesontown.	1
XIX.—Gorbals,	7
XX.—Kingston,	13
XXII.—Langside,	3
XXV.—Maryhill,	1
	73

These affected 640 houses, of which 343 were of one apartment, 271 of two apartments, and 26 of three apartments.

114 of the one-apartment houses, 54 of the two apartments, and 5 of the three apartments were empty at the time of representation, and the remaining 467 houses were occupied by 1,180 adults and 599 children—a total of 1,779 persons, giving a ratio of 3·8 persons per house.

488 adults and 192 children were resident in 229 houses of one apartment, giving an average of 3 persons for each single-apartment house.

637 adults and 354 children dwelt in 217 two-apartment houses, giving an average of 4·6 persons for each two-apartment house, or 2·3 per room.

55 adults and 53 children were housed in 21 three-apartment houses, giving an average of 5·14 persons per three-apartment house, or 1·8 per room.

Table A gives a statement of the number of houses and of persons affected in each Ward by the foregoing representations.

TABLE A.—STATEMENT of the NUMBER of HOUSES and of the PERSONS affected in each WARD by REPRESENTATIONS submitted during 1906.

Date.	Ward.	Address.	Houses.				Population.								
			1.	2.	3.	4.	1 apt.		2 apts.		3 apts.		4 apts.		Total.
							Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
Aug. 9	I.	20 Muslin Street, ...	...	*(1) 2	...	...	...	...	4	1	...	...	...	...	5
		Empty Houses, ...	...	1	...	...									
		Totals, ...	...	1	...	...	...	...	4	1	...	...	...	...	5
April 25	II.	35 Young Street, ...	(2) 8	...	...	...	16	13	...	...	...	...	...	...	29
May 30	,,	133 Claythorn Street, ...	(2) 12	...	...	...	21	11	...	...	...	...	...	...	32
Oct. 3	,,	220 Main Street, ...	(4) 22	...	...	...	38	22	...	...	...	...	...	...	60
		Total Houses, ...	42	...	...	...									
		Empty Houses, ...	8	...	...	...									
		No. of Occupied Houses, with Population, ...	34	...	...	...	75	46	...	...	...	...	...	...	121
Jan. 27	III.	890 Great Eastern Road, ...	...	...	1	...	...	...	...	...	4	6	...	...	10
Feb. 21	,,	361 Abercromby Street, ...	4	...	...	...	7	4	...	...	...	...	...	...	11
,, ,,	,,	20-34 Stewart's Lane, ...	7	3	...	...	12	1	8	9	...	...	...	...	30
May 30	,,	10 Ritchie Lane, ...	...	(1) 3	1	...	...	...	11	3	3	3	...	...	20
August 9	,,	784 Gallowgate, ...	(1) 5	...	...	...	10	6	...	...	...	...	...	...	16
,, ,,	,,	12 East Rose Street, ...	(9) 21	(3) 4	...		24	6	3	2	...	...	...	...	35
,, ,,	,,	20 Do., ...	(6) 8	(1) 1	...	...	7	...	...	...	...	...	...	...	7
Oct. 1	,,	23-25 Yate Street, ...	(12) 12	...	...	...	...	...	...	...	...	...	...	...	...
,, ,,	,,	47 Do., ...	(3) 8	...	...	...	10	7	...	...	...	...	...	...	17
,, ,,	,,	152-158 Salamanca Street,	(2) 10	...	...	...	14	4	...	...	...	...	...	...	18
Nov. 19	,,	32 Burgher Street, ...	(5) 5	(4) 4	...	...	...	...	...	...	...	...	...	...	...
Dec. 20	,,	21-23 Charles Street, ...	(10) 24	(1) 6	...	...	35	16	14	2	...	...	...	...	67
,, ,,	,,	40 Marlborough Street, ...	(1) 4	1	...	...	7	5	...	...	...	...	...	...	12
,, ,,	,,	41 Greenvale Street. ...	(1) 4	1	...	...	8	...	5	...	...	...	...	...	13
		Total Houses, ...	112	23	2	...									
		Empty Houses, ...	50	10	...	...									
		No. of Occupied Houses, with Population, ...	62	13	2	...	134	49	41	16	7	9	...	...	256

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* The small figures in brackets show the number of empty houses of each size at each address at the time of representation.

REPRESENTATIONS—*Continued.*

Date.	Ward.	Address.	Houses.				Population.								
			1.	2.	3.	4.	1 apt.		2 apts.		3 apts.		4 apts.		Total.
							Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
June 27	IV.	359 Gallowgate, ...	*(4) 11	...	...	...	13	2	...	...	...	...	...	...	15
Aug. 29	,,	14 Burn Road, front, ...	...	1	1	...	...	...	3	...	2	2	...	...	7
,, ,,	,,	32 Bellfield Street, ...	2	...	...	...	4	5	...	...	...	...	...	...	9
Sept. 7	,,	14 Burn Road, back, ...	3	...	...	...	9	...	...	...	...	...	...	...	9
,, ,,	,,	16 Do., ...	(2) 3	4	...	...	3	...	11	1	...	...	...	...	15
Oct. 23	,,	1B Little Dovehill, ...	...	(1) 3	(1) 3	...	...	...	6	3	2	5	...	...	16
Dec. 20	,,	30-38 Coalhill Street, ...	(2) 4	(2) 12	...	...	2	3	32	22	...	...	...	...	59
		Total Houses, ...	23	20	4	...									
		Empty Houses, ...	8	3	1	...									
		No. of Occupied Houses, with Population, ...	15	17	3	...	31	10	52	26	4	7	...	...	130
Aug. 29	V.	222 Castle Street, ...	(2) 4	(1) 8	...	...	5	...	20	16	...	...	...	...	41
Dec. 20	,,	127 Duke Street, ...	...	...	1	...	...	...	...	...	5	...	...	...	5
		Total Houses, ...	4	8	1	...									
		Empty Houses, ...	2	1	...	...									
		No. of Occupied Houses, with Population, ...	2	7	1	...	5	...	20	16	5	...	...	...	46
Oct. 3	VI.	Target House, ...	1	...	...	...	2	1	...	...	...	...	...	...	3
Jan. 27	VII.	West Keppoch Farm, ...	...	...	1	...	...	...	...	...	4	5	...	...	9
Jan. 10	VIII.	4 Weaver Street, ...	(2) 6	(1) 4	...	...	10	4	9	2	...	...	...	...	25
		Empty Houses, ...	2	1	...	...									
		No. of Occupied Houses, with Population, ...	4	3	...	...	10	4	9	2	...	...	...	...	25
Mar. 17	IX.	13 Thistle Street, ...	(1) 2	1	1	...	3	2	4	3	2	5	...	...	19
,, ,,	,,	64 Rose Street, ...	...	(1) 15	(2) 5	...	...	...	43	18	6	9	...	...	76
April 25	,,	102 Crown Street, ...	...	(1) 4	...	...	...	...	16	3	...	...	...	...	19
		Total Houses, ...	2	20	6	...									
		Empty Houses, ...	1	2	2	...									
		No. of Occupied Houses, with Population, ...	1	18	4	...	3	2	63	24	8	14	...	...	114

* The small figures in brackets show the number of empty houses of each size at each address at the time of representation.

REPRESENTATIONS—*Continued.*

Date.	Ward.	Address.	Houses.				Population.								
			1.	2.	3.	4.	1 apt.		2 apts.		3 apts.		4 apts.		Total.
							Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
Feb. 21	X.	40 North Frederick Street,	5	*(1) 5	...	...	10	3	17	3	...	...	...	...	33
July 18	,,	48 Dundas Street, ...	...	1	...	...	...	...	6	2	...	...	...	...	8
Nov. 19	,,	15-25 Dempster Street, ...	...	22	...	...	...	...	71	15	...	...	...	...	86
		Total Houses, ...	5	28	...	...									
		Empty Houses, ...	...	1	...	...									
		No. of Occupied Houses, with Population, ...	5	27	...	...	10	3	94	20	...	...	...	...	127
Jan. 10	XIII.	15 Clyde Street, ...	3	4	...	...	6	...	10	6	...	...	...	...	22
,, 27	,,	107-111 Piccadilly Street, ...	(1) 1	3	...	...	...	...	8	7	...	...	...	...	15
May 30	,,	58 ,, ...	(4) 8	3	...	...	8	6	7	9	...	...	...	...	30
,, ,,	,,	59 Cheapside Street, ...	...	2	...	...	...	...	3	1	...	...	...	...	4
,, ,,	,,	66 Piccadilly Street, ...	2	...	...	...	4	...	...	...	...	...	...	...	4
,, ,,	,,	35 Grace Street, ...	...	(3) 12	...	...	...	...	23	19	...	...	...	...	42
		Total Houses, ...	14	24	...	...									
		Empty Houses, ...	5	3	...	...									
		No. of Occupied Houses, with Population, ...	9	21	...	...	18	6	51	42	...	...	...	...	117
June 27	XIV.	8 Bishop Street, ...	(8) 12	(8) 26	...	...	11	3	53	34	...	...	...	...	101
		Empty Houses, ...	8	8	...	...									
		No. of Occupied Houses, with Population. ...	4	18	...	...	11	3	53	34	...	...	...	...	101
Jan. 27	XVI.	18 North Woodside Road,	...	3	...	...	...	...	6	5	...	...	...	...	11
Feb. 21	,,	592-604 Dobbie's Loan, ...	...	(9) 24	...	...	...	...	34	34	...	...	...	...	68
Mar. 17	,,	2 Stirling Street, ...	6	2	...	...	13	4	5	...	...	...	...	...	22
April 25	,,	210 Possil Road, ...	(7) 14	...	...	...	16	7	...	...	...	...	...	...	23
		Total Houses.	20	29	...	...									
		Empty Houses, ...	7	9	...	...									
		No. of Occupied Houses, with Population, ...	13	20	...	...	29	11	45	39	...	...	...	...	124
Aug. 29	XVII.	10 Society Row, ...	...	(2) 2	...	...	...	...	...	...	...	...	...	...	...
		Empty Houses, ...	...	2	...	...									

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* The small figures in brackets show the number of empty houses of each size at each address at the time of representation.

REPRESENTATIONS—*Continued.*

Date.	Ward.	Address.	Houses.				Population.								
			1.	2.	3.	4.	1 apt.		2 apts.		3 apts.		4 apts.		Total.
							Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
Aug. 9	XVIII	54 So. Wellington Street,	*(11) 28	2	...	...	34	10	4	9	...	...	...	...	57
		Empty Houses,... ...	11	...	...	...	...	...	...	...	...	...	...	...	...
		No. of Occupied Houses, with Population, ...	17	2	...	...	34	10	4	9	...	...	...	...	57
March 17	XIX.	26 Thistle Street,... ...	1	(1) 5	2	...	2	...	9	8	5	5	...	...	29
,, ,,	,,	102 Portugal Street, ...	...	(1) 9	...	...	...	...	20	17	...	...	...	...	37
,, ,,	,,	22 Do., ...	...	(1) 5	...	...	...	...	11	4	...	...	...	...	15
Oct. 31	,,	3-9 Portugal Lane, ...	1	2	...	...	2	2	5	3	...	...	...	...	12
,, ,,	,,	22 Do., ...	...	3	...	...	...	...	14	7	...	...	...	...	21
,, ,,	,,	14-26 Norfolk Lane, ...	(1) 4	...	1	...	5	1	...	...	3	...	...	...	9
Dec. 20	,,	7 Surrey Street, ...	...	2	(1) 1	...	...	...	5	5	...	...	...	...	10
		Total Houses, ...	6	26	4	...									
		Empty Houses,... ...	1	3	1	...									
		No. of Occupied Houses, with Population, ...	5	23	3	...	9	3	64	44	8	5	...	...	133
Jan. 10	XX.	52 Dale Street, ...	6	4	...	...	11	4	10	6	...	...	...	...	31
,, ,,	,,	69 King Street, ...	...	(2) 2	...	...	...	...	...	...	...	...	...	...	...
,, 27	,,	63 Do. (back), ...	4	2	...	...	9	7	6	4	...	...	...	...	26
March 17	,,	32 Dale Street, ...	(2) 8	...	...	...	13	6	...	...	...	...	...	...	19
April 25	,,	46 Do., ...	7	(1) 6	1	...	13	3	15	6	3	1	...	...	41
,, ,,	,,	45 King Street, ...	1	(1) 3	...	...	3	2	5	5	...	...	...	...	15
,, ,,	,,	57 Do., ...	(3) 4	(3) 4	(2) 3	...	2	1	2	4	3	...	...	...	12
,, ,,	,,	63 Do. (side), ...	(1) 11	5	...	...	17	4	15	6	...	...	...	...	42
June 27	,,	156 Centre Street, ...	...	(2) 11	3	...	...	...	26	19	8	12	...	...	65
Oct. 23	,,	106 Wallace Street, ...	...	1	...	...	...	...	4	3	...	...	...	...	7
,, 31	,,	82 Commerce Street, ...	1	3	...	...	2	3	8	5	...	...	...	...	18
Dec. 20	,,	80 Nelson Street,... ...	3	...	...	...	7	1	...	...	...	...	...	...	8
,, ,,	,,	20 South Kinning Place,...	1	...	...	...	2	2	...	...	...	...	...	...	4
		Total Houses, ...	46	41	7	...									
		Empty Houses. ...	6	9	2	...									
		No. of Occupied Houses, with Population, ...	40	32	5	...	79	33	91	58	14	13	...	...	288

* The small figures in brackets show the number of empty houses of each size at each address at the time of representation.

REPRESENTATIONS—*Continued.*

Date.	Ward.	Address.	Houses.				Population.								
			1.	2.	3.	4.	1 apt.		2 apts.		3 apts.		4 apts.		Total.
							Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
Nov. 19	XXII.	663-671 Pollokshaws Road,	*(1) 9	9	1	...	18	4	27	17	5	...	...	...	71
,, ,,	,,	675 Do.,	(3) 7	2	...	...	7	5	8	3	...	...	...	...	23
,, ,,	,,	681-689 Do.,	(1) 2	4	...	...	3	...	11	3	...	...	...	...	17
		Total Houses, ...	18	15	1	...									
		Empty Houses, ...	5	...	...	...									
		No. of Occupied Houses, with Population, ...	13	15	1	...	28	9	46	23	5	...	...	...	111
Aug. 29	XXV.	47-49 Main Street, Maryhill,	4	(1) 1	...	...	10	2	...	...	...	...	...	...	12

* The small figures in brackets show the number of empty houses of each size at each address at the time of representation.

Table B.—SUMMARY of 1906 Representations.

Ward.	Number of Representations.	Houses.			Population.						Total.
					1 Apt.		2 Apts.		3 Apts.		
		1 Apt.	2 Apts.	3 Apts.	Ad.	Ch.	Ad.	Ch.	Ad.	Ch.	
I. Dalmarnock, ...	1	...	2	...	...	...	4	1	...	...	5
II. Calton, ...	3	42	...	...	75	46	...	...	...	...	121
III. Mile-end, ...	14	112	23	2	134	49	41	16	7	9	256
IV. Whitevale, ...	7	23	20	4	31	10	52	26	4	7	130
V. Dennistoun, ...	2	4	8	1	5	...	20	16	5	...	46
VI. Springburn, ...	1	1	...	...	2	1	...	...	...	...	3
VII. Cowlairs, ...	1	...	...	1	...	...	...	...	4	5	9
VIII. Townhead, ...	1	6	4	...	10	4	9	2	...	...	25
IX. Blackfriars, ...	3	2	20	6	3	2	63	24	8	14	114
X. Exchange, ...	3	5	28	...	10	3	94	20	...	...	127
XIII. Anderston, ...	6	14	24	...	18	6	51	42	...	...	117
XIV. Sandyford, ...	1	12	26	...	11	3	53	34	...	...	101
XVI. Cowcaddens, ...	4	20	29	...	29	11	45	39	...	...	124
XVII. Woodside, ...	1	...	2	...	...	...	...	...	...	...	...
XVIII. Hutchesontown, ...	1	28	2	...	34	10	4	9	...	...	57
XIX. Gorbals, ...	7	6	26	4	9	3	64	44	8	5	133
XX. Kingston, ...	13	46	41	7	79	33	91	58	14	13	288
XXII. Langside, ...	3	18	15	1	28	9	46	23	5	...	111
XXV. Maryhill, ...	1	4	1	...	10	2	...	...	...	...	12
Total Representations,	73	343	271	26	488	192	637	354	55	53	1,779
Total Empty Houses,	...	114	54	5							
Total Occupied Houses,	...	229	217	21							
Total Number of Adults, ...					1,180						
,, ,, Children, ...					599						
Persons per Occupied House, ...					3		4·6		5·1		
,, ,, Room, ...					3		2·3		1·7		

Number of Farmed-out or Sub-let Houses.

Among the houses dealt with by representation during the year, 66 were "sub-let," at rents varying from 5s. to 7s. per week. 27 were single-apartment houses, 38 were of two apartments, and there was 1 three-apartment house. The following summary (Table C) shows the Wards and the addresses at which these houses were situated:—

TABLE C.—SUB-LETS, 1906.

Ward.	Address.	1 Apt.	2 Apts.	3 Apts.
II. Calton, ...	35 Young Street, ...	1	...	...
III. Mile-end, ...	12 East Rose Street,...	1	...	...
	20 Do., ...	7	...	...
IV. Whitevale, ...	359 Gallowgate, ...	7	...	...
IX. Blackfriars, ...	64 Rose Street, ...	...	8	...
X. Exchange, ...	15-25 Dempster Street, ...	...	21	...
XIII. Anderston, ...	58 Piccadilly Street, ...	2	1	...
	59 Cheapside Street, ...	...	2	...
XIV. Sandyford, ...	8 Bishop Street, ...	...	3	...
XVI. Cowcaddens, ...	210 Possil Road, ...	4	...	...
XIX. Gorbals, ...	26 Thistle Street, ...	1	3	1
XX. Kingston, ...	32 Dale Street, ...	4	...	...
		27	38	1

Results of Representations.

Before considering the action which followed the representations submitted during the year, it will be convenient to summarise shortly the results of all the representations presented since systematic procedure was begun under the Housing of the Working Classes Act in 1902. The following Table (D) brings the record down to December, 1906:—

TABLE D.—SUMMARY of REPRESENTATIONS under the HOUSING of the WORKING CLASSES ACT, with RESULTS as at close of 1906.

Year.	No. of Representations.	Persons affected.	Removed.					Agreed to Remove.			Repaired.	Failed to obtain Closing Order.	Pending.
			1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.			
1902*	3	185	1	2	...	...	...	...	...	...	...	...	...
1903*	31	1,103	...	6	13†	1	...	...	...	...	...	1‡	11§
1904	81 ‖	1,717	...	...	18	17	11	6	2	1	5	...	14
...	115	3,005	1	8	31	18	11	6	2	1	5	1	25
1905	100	2,577	...	...	...	14	18	11	2	...	7	1¶	53**
1906	73	1,779	..	...	...	...	7	6	1	...	...	...	63
Total,	288	7,361	1	8	31	32	36	23	5	1	12	2	141

* For details, see pp. 101-2 of 1903 Report.

† In 4, 6, 8 Water Street and 538-546 Dobbie's Loan, represented together, the tenement at 8 Water Street only was removed.

‡ 75 Brown Street, Anderston.

§ See footnote (†) regarding the other numbers at Water Street and Dobbie's Loan.

‖ Owing to separate ownership, these 81 Representations refer to only 74 separate or "grouped" addresses.

¶ 50 Crown Street.

** 100 Representations, owing to separate ownership, affected 98 separate or "grouped" addresses.

Displacements in 1906.

These may most conveniently be considered in order of the year of representation.

From 1904 Representations.

Table D shows 11 tenements represented in 1904 to be removed in 1906. The number of houses and persons occupying them at the time of representation are shown in the following Table E:—

Address.	Houses.				Population.		Total Persons.
	1 Apt.	2 Apts.	3 Apts.	4 Apts.	Adults.	Children.	
22 Kent Street, ...	3	3	...	...	9	6	15
398 Gallowgate, ...	...	9	...	...	1	1	2
15 Hunter Street, ...	2	4	...	...	13	3	16
*6 Balmano Street,	8	2	...	...	18	12	30
44 George Street,							
34 Rose Street, ...	1	8	...	...	20	14	34
46½ Do., ...	...	16	...	...	19	21	40
*75 Clyde Street, ...	...	9	...	...	19	4	23
1 Perth Street, ...	...	6	...	...	12	9	21
*11 Do., ...	6	2	1	...	14	14	28
*17 Do., ...	8	...	...	...	19	8	27
26 South Wellington Lane,	16	...	...	...	26	18	44
	44	59	1	...	170	110	280

* Not yet displaced.

Great difficulty has again been experienced in following the displaced tenants to their new addresses. Change of residence is frequent among the class of tenants inhabiting these properties, and the houses just before their demolition are seldom occupied by the persons occupying them at the time of representation, unless, indeed, a very short interval separates these stages. An additional difficulty arises from the fact that, when the time agreed upon for demolition approaches, incoming tenants are not found in numbers equal to those leaving, and consequently many houses remain empty. It thus follows that the number of tenants who can finally be followed up is usually far short of those primarily affected. Difficulty also is experienced sometimes through the tenants being displaced some considerable time before the time agreed upon for demolition and before their future movements have been ascertained. Further, it is no uncommon thing to find tenants unwilling or unable to disclose accurately their next address, or who absolutely refuse to give any information at all.

As a result of one or other of these causes, it was only possible to follow up 50 of the original 104 families affected by the representations.

In the subjoined Table F the details of these changes are shown. Instead of 9 families, embracing 28 persons, resident in one-apartment houses, the displacement produced 13 families with 40 persons. Instead of 41 two-apartment families with 156 persons, we had 23 families with 79 persons, and 1 family, consisting of 6 persons, went from a two-apartment to a three-apartment house. Twelve families, including 58 persons, were not found at the addresses given, and were lost sight of, while one old woman, living in a single-apartment house, went into lodgings.

TABLE F.—STATEMENT of RESULTS of DISPLACEMENTS in 1906 from TENEMENTS represented in 1904 where these were obtainable.

ADDRESS.	FAMILIES.					PERSONS.					NOT TRACED.		TO LODGINGS.	
	OLD ADDRESS.		NEW ADDRESS.			OLD ADDRESS.		NEW ADDRESS.						
	1 Apt.	2 Apts.	1 Apt.	2 Apts.	3 Apts.	1 Apt.	2 Apts.	1 Apt.	2 Apts.	3 Apts.	Families.	Persons.	Families.	Persons.
22 Kent Street, ...	1	4	...	4	...	1	19	...	19	...	...	...	1	1 (Model.)
398 Gallowgate, ... (From Sub-let to Sub-let.)	...	10	...	10	...	...	21	...	21	...	...	...	...	...
15 Hunter Street, ... (From Sub-let to Sub-let.)	3	...	3	...	...	7	...	7	...	...	...	...	...	...
34 Rose Street, S.S., ...	1	7	2	1	...	2	32	7	2	...	5	25	...	...
46½ Rose Street, S.S., ...	...	14	5	4	1	...	61	14	19	6	4	22	...	...
1 Perth Street, ...	...	6	2	3	...	...	23	8	13	...	1	2	...	...
26 South Wellington Lane,	4	...	1	1	...	18	...	4	5	...	2	9	...	...
	9	41	13	23	1	28	156	40	79	6	12	58	1	1

From 1905 Representations.

On again referring to Table D, it is seen that 18 tenements represented in 1905 were to be displaced in 1906. The number of houses and persons occupying these at the time of representation are shown in the following Table G:—

Displacements from Tenements represented in 1905.

Address.	Houses.			Population.		
	1 Apt.	2 Apts.	3 Apts.	Adults.	Children.	Total.
1905.						
40-60 Cumberland Street, E., ...	3	27	...	44	37	81
238 Main Street, Bridgeton, ...	2	...	...	4	2	6
19 Greenvale Street, ...	...	1	...	2	6	8
10-18 Winning Row, ...	4	3	...	13	13	26
146 Drygate, ...	2	2	...	5	1	6
4-6 Ladywell, ...	4	2	...	10	3	13
68-70 Old Keppochhill Road, ...	4	9	...	26	14	40
21 Parson Street, ...	14	...	...	14	...	14
15 Tarbet Street, ...	4	6	...	7	1	8
*14 Shuttle Lane, ...	2	2	...	12	4	16
39 Crown Street, ...	9	1	2	28	7	35
16 Sharp's Lane, ...	...	12	...	37	16	53
51 West Bothwell Street, ...	4	...	...	7	3	10
64 Ann Street, Port-Dundas, ...	5	3	...	11	8	19
7 Surrey Street, ...	8	6	...	35	15	50
80 Rutherglen Road.	4	...	...	8	4	12
174 Centre Street, ...	2	...	...	3	1	4
9 Struthers Street, ...	4	1	...	13	3	16
	75	75	2	279	138	417

* Not yet displaced.

Of the above, it was only possible to follow 122 of the original 152 families affected by the representations.

In the subjoined Table H the details of these changes are shown.

TABLE H.—STATEMENT of RESULTS of DISPLACEMENTS in 1906 from TENEMENTS REPRESENTED in 1905 where these were obtainable.

ADDRESS.	FAMILIES.						PERSONS.						NOT FOUND.		TO LODGINGS.	
	Old Address.			New Address.			Old Address.			New Address.						
	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	Families.	Persons.	Families.	Persons.
-60 Cumberland Street, East,	3	36	...	3	26	1	12	202	...	10	167	8	8	26	1	3
8 Main Street, Bridgeton,...	2	...	...	1	...	...	7	...	...	4	...	...	...	...	1	3
Greenvale Street, ...	...	1	...	...	1	...	...	8	...	...	8	...	...	...	...	...
0-18 Winning Row,... ...	3	2	...	3	...	...	7	14	...	9	...	...	2	12	...	...
46 Drygate, ...	1	1	...	...	1	1	4	2	...	...	2	4	...	...	...	...
6 Ladywell Street, ...	3	1	...	3	1	...	8	2	...	8	2	...	...	..	...	...
Parson Street, ...	4	...	...	3	1	...	9	...	...	6	3	...	...	...	...	...
Tarbet Street, ...	3	1	...	2	1	...	9	6	...	5	6	...	1	4	...	...
Crown Street, ...	9	3	...	4	6	...	31	16	...	17	25	...	2	5	...	...
Sharp's Lane, ...	...	10	...	...	9	...	...	54	...	...	48	...	1	6	...	...
West Bothwell Street, ...	4	...	...	3	1	...	11	...	...	6	5	...	...	...	...	...
Ann Street, Port-Dundas,	13	4	...	7	10	...	32	19	...	26	25	...	...	...	...	...
Surrey Street, ...	5	6	...	1	8	...	12	37	...	1	43	...	...	...	2	5
4 Centre Street, ...	2	...	...	...	2	...	3	...	...	...	3	...	...	...	...	...
Struthers Street, ...	4	1	...	3	...	...	7	2	...	6	...	...	2	3	...	...
	56	66	...	33	67	2	152	362	...	98	337	12	16	56	4	11

From 1906 Representations.

As again shown in Table D, 7 tenements represented in 1906 were to be removed in the same year. The number of houses and persons occupying these at the time of representation are shown in the following Table I.:—

	HOUSES.				POPULATION.		
	1 apartment.	2 apartments.	3 apartments.	4 apartments.	Adults.	Children	Total.
1906.							
2 Stirling Street, Cowcaddens, -	6	2	...	...	18	4	22
32 Dale Street, - - - - -	8	...	...	...	13	6	19
Target House, - - - - -	1	...	...	...	2	1	3
18 North Woodside Road, -	...	3	...	...	6	5	11
52 Dale Street, - - - - -	6	4	...	...	21	10	31
West Keppoch Farm, - -	...	...	1	...	5	4	9
22 Portugal Street, - - - -	...	5	...	...	11	4	15
	21	14	1	...	76	34	110

It was only possible to follow 31 of the original 36 families affected by the representations above given. The details of these are shown in the subjoined Table J.

TABLE J.—STATEMENT of RESULTS of DISPLACEMENTS in 1906 from TENEMENTS represented during 1906 where these were obtainable.

ADDRESS.	FAMILIES.				PERSONS.				NOT FOUND.		TO LODGINGS.	
	Old Address.		New Address.		Old Address.		New Address.					
	1 Apt.	2 Apts.	1 Apt.	2 Apts.	1 Apt.	2 Apts.	1 Apt.	2 Apts.	Families.	Persons.	Families.	Persons.
32 Dale Street, ...	6	...	2	2	14	...	7	7	2	...	...	...
52 „	7	4	5	4	16	17	12	17	1	2	1	2
22 Portugal Street, ...	...	4	2	1	...	15	8	3	1	4	...	...
2 Stirling Street, Cowcaddens,	5	2	4	3	17	5	13	9	...	...	...	...
18 North Woodside Road, ...	...	3	2	1	...	12	8	4	...	...	...	...
	18	13	15	11	47	49	48	40	4	6	1	2

The total displacements during the year are as follows:—

TABLE K.

YEAR OF REPRESENTATION.	HOUSES.				POPULATION.		
	1 apt.	2 apts.	3 apts.	4 apts.	Adults.	Children.	Total.
1904, ...	44	59	1	...	170	110	280
1905, ...	71	74	2	...	266	135	401
1906, ...	21	14	1	...	76	34	110
Total, ...	136	147	4	...	510	276	786

The results of the displacements in these three years are shown in the following Table:—

TABLE L.

	FAMILIES.						PERSONS.						NOT FOUND.		TO LODGIN	
	Old Address.			New Address.			Old Address.			New Address.						
	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	1 apt.	2 apts.	3 apts.	Families.	Persons.	Families.	Per sons
Represented in 1904, ...	9	41	...	13	23	1	28	156	...	40	79	6	12	58	1	1
„ „ 1905, ...	56	66	...	33	67	2	152	362	...	98	337	12	16	56	4	11
„ „ 1906, ...	18	13	...	15	11	...	47	49	...	48	40	...	4	6	1	2
Total,... ...	83	120	...	61	101	3	227	567	...	186	456	18	32	120	6	14

Of the families displaced, 12 originally inhabiting two-apartment houses were re-housed in one apartments, and generally the individual changes which these families experienced are as follows:—

COMPARATIVE CUBIC SPACE AND RENTAL OF BOTH HOUSES WHERE 2-APARTMENT TENANTS REMOVED TO 1-APARTMENT HOUSES FOR THREE YEARS 1904-06.

Cubic Space.			Rental.	
Old. Cub. feet.	New. Cub. feet.		Old. s. d.	New. s. d.
1,300	924	...	9 10	8 0
2.030	1,700	..	9 0	10 0
2,132	1,000	...	9 0	8 0
1,990	1,000	...	9 0	9 2
1,511	1,325	...	Free	11 0
1,600	1,500	...	10 0	10 6
2,016	1,320	...	9 0	7 6
1,704	1,001	...	8 0	7 6
1,704	1,040	...	9 0	7 6
1,835	1,009	...	9 0	...
2,021	1,329		10 0	10 9
2,039	1,200	...	11 8	9 0

In the great majority of instances, displacement is followed by improvement, as the following conditions indicate:—

	Percentage of Houses.		
	1 Apartment.	2 Apartments.	3 Apartments.
Old Addresses, ...	46	52	2
New Addresses, ...	37	61	2
Average Rental, Old Address. ...	7/6	9/9	12/0
,, New ,, ...	9/5	11/9	13/6

On the whole, therefore, the tendency has been to seek ampler accommodation.

OCCUPATIONS OF DISPLACED TENANTS

Displaced in 1906.

These may be classified as under:—

1. Labourers, all classes (Males), ...	55	176	Dependents.
2. Factory Workers and others of similar grade (Females), ...	4	6	,,
3. Hawkers and Itinerant Merchants, ...	8	17	,,
4. Tradesmen and Skilled Labourers,... ...	20	59	,,
5. Miscellaneous—Porters, Stonebreakers, ...	31	73	,,
6. Miners and Pit Workers, ...	4	11	,,
7. Carters, ...	5	17	,,
8. No occupation (idle), ...	14	27	,,
	141	386	,,

RELATION TO SCHOOL AND WORK.

In several cases the displaced tenants found houses in the front tenements at their respective addresses. In general, they found accommodation at no great distance from their old houses, and quite as convenient both to work and school.

In the following Table (M) the number of houses closed and the number of persons displaced from 1902 to date are shown:—

TABLE M.—HOUSES CLOSED and PERSONS DISPLACED.

YEAR.	HOUSES.				POPULATION.
	1 apt.	2 apts.	3 apts.	4 apts. and up.	
1902, ...	...	14	...	...	53
1903, ...	62	60	2	1	404
1904, ...	187	124	5	...	732
1905, ...	113	106	4	...	566
1906, ...	136	147	4	...	786
	498	451	15	1	*2,541
Total Houses,	965				

* During these years 1,373 houses of one apartment, 1,163 of two apartments, 86 of three apartments, and 12 of four apartments and upwards were represented, and the total population resident therein numbered 7,361.

OWNERSHIP OF TENEMENTS REPRESENTED DURING 1906.

These 73 representations are tabulated below to show whether the tenements were owned privately or otherwise. It will be seen that, of the 36 private owners, 19 were resident in Glasgow, while 17 resided beyond the boundary. The remaining 37 tenements were owned by business firms, house factors, trustees, and others.

OWNERSHIP OF TENEMENTS REPRESENTED IN 1906.

Private Owners.	Firms, Trustees, and Others.
36	37

Total representations, ... 73

PRIVATE OWNERSHIP.

Resident in Glasgow.	Resident Outside the City.
19	17

FARMED-OUT HOUSES.

In continuation of the practice, begun in 1904, a special census was taken of the persons occupying these houses on the 18th August. There were 1,052 houses, of which 636 were one-apartment houses and 416 two-apartment houses. The persons found occupying the one-apartment houses were 1,302 adults and 387 children, and in the two-apartment houses, 1,145 adults and 532 children; or together, 2,447 adults and 919 children living under the conditions of farmed-out houses.

The details of the number in the several Wards, along with the number of their inmates, are contained in the following Table:—

TABLE N.—GLASGOW.—FARMED-OUT HOUSES and INMATES as at 18th AUGUST, 1907.

WARDS.	Number of Houses Farmed-out.		Inmates in Houses of each Size.			
	1 Apt.	2 Apts.	1 Apartment.		2 Apartments.	
			Adults.	Children.	Adults.	Children.
1. Dalmarnock,... ...	...	...	...	...	...	...
2. Calton, ...	122	81	260	76	157	85
3. Mile-end.	15	...	29	10	...	...
4. Whitevale, ...	32	35	78	17	90	40
5. Dennistoun.	26	14	59	20	36	10
6. Springburn, ...	11	3	22	9	6	4
7. Cowlairs, ...	...	...	...	...	...	...
8. Townhead, ...	46	35	100	29	106	41
9. Blackfriars	137	92	301	73	308	106
10. Exchange, ...	...	20	...	...	55	20
11. Blythswood,... ...	...	...	...	...	...	...
12. Broomielaw,... ...	27	37	60	52	90	56
13. Anderston, ...	113	18	195	62	49	19
14. Sandyford, ...	...	...	...	...	...	...
15. Park, ...	...	...	...	...	...	...
16. Cowcaddens, ...	39	5	74	6	16	3
17. Woodside, ...	...	...	...	...	...	...
18. Hutchesontown. ...	32	17	58	14	49	44
19. Gorbals, ...	28	9	51	14	37	17
20. Kingston, ...	8	50	15	5	146	87
21. Govanhill.	...	...	...	...	...	...
22. Langside, ...	...	...	...	...	...	...
23. Pollokshields, ...	...	...	...	...	...	...
24. Kelvinside, ...	...	...	...	...	...	...
25. Maryhill, ...	...	...	...	...	...	...
26. Kinning Park, ...	...	...	...	...	...	...
CITY.	636	416	1,302	387	1,145	532
CENSUS, 1901, ...	531	275	...	...	...	...

HOUSES LET IN LODGINGS.

Closely associated with farmed-out houses are those let in lodgings, the distinction between them being to a large extent a technical one. An enumeration of the number of persons living in houses let in lodgings was also taken at

18th August, with the result that the number of families resident had decreased from 675 in 1905 to 622 in the present year, and that the total number of persons composing these families had decreased from 1,436 to 1,384. In both years the information has been supplied by the principal tenant of the houses.

TABLE O.—HOUSES LET in LODGINGS, showing NUMBERS in each WARD, as at 18th AUGUST, 1907.

WARDS.	No. of Houses on Register.	No. of Houses Empty or in which no Lodgers kept.	No. of Houses Actually Let in Lodgings.	No. of Apartments.	No. to Accommodate (Adults).	Inmates found.	
						No. of Families.	Total No. of Persons (All Ages).
1. Dalmarnock, ...	15	11	4	8	30½	10	28
2. Calton, ...	36	13	23	88	196½	47	106
3. Mile-end, ...	9	5	4	9	31½	8	22
4. Whitevale, ...	28	24	4	10	31	8	20
6. Springburn, ...	18	3	15	30	103½	34	77
7. Cowlairs, ...	16	10	6	16	78	34	54
8. Townhead, ...	18	2	16	45	121½	42	99
9. Blackfriars, ...	44	24	20	73	228½	59	142
11. Blythswood, ...	1	1	...	...	...	...	...
12. Broomielaw, ...	12	4	8	26	136	30	48
13. Anderston. ...	24	10	14	43	133½	45	82
14. Sandyford, ...	11	3	8	22	67	15	45
15. Park, ...	6	4	2	15	72	6	25
16. Cowcaddens, ...	24	15	9	23	63½	27	49
17. Woodside, ...	7	4	3	16	70	37	45
18. Hutchesontown,...	23	17	6	14	44½	9	39
19. Gorbals, ...	28	9	19	55	169½	68	126
20. Kingston, ...	21	10	11	29	94½	16	62
25. Maryhill, ...	83	31	52	109	375	127	315
CITY, ...	424	200	224	631	2,046½	622	1,384

NOTE.—In Wards 5, 10, 21, 22, 23, 24, and 26 there are no Houses Let in Lodgings on the Register.

INSANITARY AREAS AND THE NECESSITY FOR CARETAKERS.

In the foregoing record we have illustration of what may be accomplished by selective action directed against individual houses.

In those instances the buildings are so obviously insanitary that even the owners in most cases regard their repair and restitution as houses fit for human habitation as beyond reasonable effort.

It is well to remember, however, that the responsibility of a Local Authority with regard to the housing of its population may reasonably extend beyond the limits of action thus indicated; and although the object of an annual report is to record work accomplished rather than to discuss lines of future policy, reference may here be made to two additional aspects of the question which are of considerable importance, and one of which is already engaging the attention of a sub-committee.

I have on several occasions pointed out the wholly irresponsible manner in which many tenements are occupied. Nothing is asked regarding the character of the prospective tenant, and all that is required of him is the payment of rent. The structure of the house itself carries with it evidence of the indifference of both landlord and tenant, and we are content at the moment to allow these objections to accumulate until neglect has reached a stage when argument becomes unnecessary.

Of all the suggestions which have hitherto been made, that of a system of compulsory caretakers seems to me most likely to arrest the deterioration of such structures.

To a considerable extent the population of these houses have the most elementary conceptions of home life and citizenship, and to permit them to continue in their ignorance is to delay the solution of one of the most urgent problems which modern cities have created.

The other aspect of the question of housing, to which reference may be made, is the existence of insanitary areas. Experience of displacements here and elsewhere has brought both gratification and disappointment. The area has been regenerated, but the displaced population has simply been dispersed. It is easy to appreciate the disappointment so frequently expressed with the results of this displacement on the character of the displaced population. It is more difficult to command the patience necessary to await the results of an educative process, and this is essentially the change which displacement from insanitary surroundings is fitted to begin. The economic aspect of the question also is not without difficulty. Between the frankly uninhabitable house which has only a stone and lime value and the insanitary area which may have individual houses objectionable chiefly because of their situation and surroundings, there is a wide interval which existing legal machinery does not seem able to bridge, except at a cost which may well appear to be prohibitory. But the need for action is none the less urgent, and the area just to be described affords an illustration taken from one of the Wards already referred to as repre- a persistently high death-rate. It is at present under consideration by the sub-committee above referred to.

Description of Area Presently under Consideration of Sub-Committee.

Acreage.—Its area extends to 13,000 square yards, including half the surrounding streets.

Houses.—It carries 443 houses, of which 202 are single apartments, 209 two apartments, 31 three apartments, and 1 four apartments.

Population.—Its population, as ascertained by a recent enumeration, is 1,479, 421 of whom are children under ten years of age, and 1,048 are persons over ten years of age.

Farmed-out Houses and Houses Let in Lodgings.—Eleven one-apartment houses are "farmed out," as are 5 two-apartment houses.

Three one-apartment houses are let in lodgings, as are also 8 two-apartment and 8 three-apartment houses.

Empty Houses.—There are 29 one-apartment houses, 35 two-apartment houses, and 1 three-apartment house empty.

Shops.—There are 57 shops in the district, and 8 combined shops and houses.

The number of public-houses is 6, and of places where food is sold 5.

Rentals.—The average monthly rental of the one-apartment houses varies from 7s. to 11s., and of the two-apartment houses from 13s. 6d. to 16s. 8d.

Ticketed Houses.—There are, in all, 357 houses "ticketed."

Illegal Houses.—One hundred and twenty-six houses are illegal in one or more apartments. 64 of these are of one apartment. 15 two apartment houses are illegal in one apartment, and 45 in both; and there are 2 houses with shops attached where the living apartment is illegal.

Density.—On the basis of the 13,000 square yards already stated, the density is 550·6 per acre, but excluding the streets it is 929·4. The compression of the population, however, will be better understood when it is stated that in the area the square yards per person present average 8·8, as against 22·4 for the ward and 66·7 for the city.

Vital Statistics. — The birth-rate is 49 and the death-rate 41 per 1,000. The infantile death-rate equals 230 per 1,000 born, as against 174 for the ward and 131 for the city.

From diseases of the respiratory organs the death-rate is 9·5 per 1,000, as against 6·3 for the ward and 3·5 for the city.

Economic Conditions—Non-payment of Rates—Police Rates.—Mr. Borthwick has been good enough to supply me with the subjoined information regarding the police rates, and I am similarly indebted to Mr. Wood and to Mr. Rae, of the Parish Council, for information regarding the Poor Rates.

I. Police Rates.—

PROPORTION OF POLICE, &C., RATES UNPAID, 1906-7.

	City.	Ward.	Area.
(1) Occupiers at Rentals £10 and over, assessed full rates, ...	0·744	1·853	1·878
(2) Occupiers at Rentals £10 to £4, assessed half rates for certain purposes, ...	24·171	39·495	62·646
	24·915	41·348	64·524

II. Poor Rates.—Mr. Wood arranges the non-paying section of the population according to the causes which are stated as pauperism, inability, and irrecoverability—the third group being distinguished from the second, who are exempt from payment, by the fact that the irrecoverables could not be traced. In each class also the table is constructed to show the proportion of persons paying no rates and the proportion of rates unpaid by them.

CLASS.	PARISH OF GLASGOW.		AREA.	
	Percentage of persons not paying to total persons chargeable.	Percentage of amount unpaid to total amount leviable.	Percentage of persons not paying to total persons chargeable.	Percentage of amount unpaid to total amount leviable.
Paupers, ...	1·798	0·286	4·585	3·719
Inability, ...	8·162	1·012	3·220	22·727
Irrecoverable,	6·483	1·010	30·349	21·074
	16·423	2·308	38·154	47·520

Summarising the above information, it will be seen that while 24·9 per cent. of the police rates of the City are unpaid, this proportion in the Ward in question amounts to 41·3 per cent., and in the area to 64·5 per cent.

Coming to the loss of rates for poor-law and educational purposes, the figures show that while for the whole Parish of Glasgow 16 per cent. of the ratepayers fail to pay 2·3 per cent. of the rates, in the area in question non-payers represent 38 per cent. of the population and 48 per cent. of the amount leviable. If to the loss which is here indicated there be added the expenditure for police purposes, the actual cost to the City for this portion of its territory must be considerable, and fully one-third of its inhabitants would seem unable to meet civic requirements.

I am informed by Mr. Strang, the Secretary of the Charity Organisation Society, that the applications for assistance are also considerable.

Character of the Houses.—Many tenements, especially toward the circumference of the area, are fairly substantial in structure, but the internal arrangements are bad. Dark internal lobbies exist. I believe that the area cannot be satisfactorily dealt with until certain portions are removed and the space appropriated to washing-houses and other offices required by a resident population. The conversion of the remainder of the space to a playground for children would seem, with the offices already indicated, to amply occupy the ground.

It is for the Council to decide on the policy, but I believe that the first effective step in dealing with this area lies in the direction I have indicated. Whether demolition and rebuilding or reconstruction of many of the present houses would form the more economic way of obtaining the desired result is matter for discussion.

A considerable amount of attention is at the moment being directed—and rightly so, I believe—to the suppression of consumption and the reduction of the death-rate of infants, but while districts like those which I have described remain the success of these efforts is likely to be much impaired.

SECTION V.

OFFENSIVE TRADES.

Public Health (Scotland) Act, 1897, Section 32.

During the year three applications were made and sanction given to establish the following businesses under the above section of the Act:—

Ward I.—Tanner.
„ II.—Gut Cleaner.
„ III.—Size Manufacturer.

REPORT BY THE MEDICAL OFFICER ON COMPLAINTS OF NUISANCES.

I.—TAYLOR BROTHERS.

Report by the Medical Officer and Sanitary Inspector on Messrs. Taylor Bros.' Proposal to erect a Patent Grease-Extracting Plant.

This proposal results from a desire by Messrs. Taylor Brothers to substitute for the fat-extraction plant, which has been the cause of so many complaints at Springfield Road, a method of extraction by benzine which, chemically at least, would seem to combine effective extraction with the absence of any conditions from which complaint may arise, save such as may occur from careless methods of handling of raw material on arrival, and before it is introduced into the extractor.

Their proposal of 6th April current contains a description of the process, prepared by their engineer and law agents, and which is as follows:—

" Messrs. Taylor Brothers presently carry on their business of manure manufacturers at 206 Springfield Road. A plan of the works is produced herewith. They are presently erecting, in lieu of their present plant, a new patent grease-extracting plant, conform to sketch plan thereof sent herewith, for the purpose of extracting grease from the bones collected by them for the purpose of their business. They collect the bones, from which the fat is extracted, from butchers and ham-curers fresh daily. The extraction of fat from the other material now used will be given up, and bones exclusively used. Under the new system the bones, on arriving at their works, will be immediately passed through a crusher, shown on the foresaid plan. This crusher is in the place formerly used as a drying room. This crusher breaks the bones into half-inch pieces. They are then conveyed in barrows to the new grease-extracting plant, shown on said plan, in the place formerly called 'melting house.' The bones are filled into the extractor from the top, at the place marked with the letter 'A.' The door of the extractor is then closed, and a quantity of benzine from the store tank marked 'S' is pumped into the extractor. This benzine falls over the bones, extracting some of the grease, and passes then to the bottom of the extractor. In the bottom of the extractor is a steam-heated coil, by means of which the benzine is partly driven off into the condenser, thus filling the extractor with benzine vapour.

" More benzine is then pumped into the top of the extractor, and, passing down through the bones, condenses the vapour in the pores of the bones themselves, being afterwards washed out by the flow of benzine.

" This is continued with alternate liquid and vapour benzine treatments until the extraction is complete.

" The mixture of benzine and grease then contained in the bottom of the extractor is blown into the purifier, which is marked 'P.'

" While the bones are still hot from the benzine treatment, live steam is admitted by the small cock at the bottom of the extractor, and all the benzine vapour is blown into the condensers, which are marked 'C.' This steaming is continued until no more benzine is left, when all the valves connected with the extractor are shut, the bottom manhole cover 'M' is taken off, and the extracted bones are raked out in a dry condition into an iron barrow, which will be placed under and up to about the same level as the manhole, and wheeled away.

" The mixture of grease and benzine in the purifier is then heated by means of the series of tubes contained in the middle portion, and by a direct jet of steam the benzine is driven off into the condensers and the grease is left behind. This is blown out at the cock 'H,' and may be led through a pipe to barrels or other receptacles.

"All benzine and steam coming from the extractor and the purifier are led into the condensers. There are two of these, placed one above the other, and the vapour is condensed by being treated systematically, the cold water flowing in through the tubes of the lower condenser, where the benzine is already nearly cold, and passing thence to the upper condenser, where it meets the hottest benzine. This water is then saved for use or is run away into the drain, but it is in no way contaminated with anything. Passing through tubes only, it never comes in contact with anything but iron surfaces, and goes out, therefore, as pure as it came, the only change being that it is hot instead of cold. The temperature of the water to be discharged into the sewer shall not exceed the temperature allowed by the Glasgow Building Regulations Act.

"The condensed benzine drops into the store tank 'S,' where it is retained ready for use over and over again.

"The only vapour exit from the plant is the pipe marked 'L,' which allows the air which exists in the plant in the first instance to escape. This is always cold, and has no smell beyond a slight one of benzine.

"The charge of bones ordinarily takes about eighteen hours for the completion of the degreasing operation, but this may be lengthened or shortened according to the size and quality of the bones.

"The grease is sold in barrels as it came out of the purifier. The extractor is made to hold six tons of bones at a time, and guaranteed to degrease forty tons of bones per week of 168 working hours, so that each day, as the bones are received at the works, they will immediately be placed in the extractor, which will do away with the need for a raw-material store. To meet any emergency, however, the crushing house has been made a little bigger than is required, and it can be used as a store, if need be; but there will be no necessity for this, as any bones coming into the works at the end of a working day will be placed in the extractor before the works are shut up for the day. The bones, after coming out of the extractor as before stated, are removed to the disintegrator house, shown on plan, and there ground and sold as a fertiliser. Some of the bones may be sold by Messrs. Taylor without being ground. The floors of the disintegrator house and the crushing house are laid with cement, and the walls are also cemented. A fan will be placed in the crushing house, as indicated on the plan, and a pipe led from it under the boiler fire.

"Messrs. Taylor, before contracting for the patent plant before referred to, visited the works of Mr. W. R. Smith, Chester, where similar plant has been worked for the last four years without complaint of any kind from the Local Authority or any other person. There is no smell from the degreasing of bones by this process. Mr. Smith has an output of sixty tons per week.

"Messrs. Taylor's works will be practically the same as Mr. Smith's when the new plant before referred to has been put down.

"PATERSON & ROSS.

"45 West Nile Street,
"Glasgow, 6th April, 1906."

It will be observed, in the closing paragraphs of the preceding report, that special means are taken to obviate the possible risks of effluvium nuisance arising in connection with the preparation of the raw material for the extractor.

It may be stated that this is the first plant of the kind introduced into Glasgow. We believe that it provides the machinery essential for the extraction of fat without nuisance, and recommend the Local Authority formally to agree to the proposal.

A. K. CHALMERS.
P. FYFE.

Sanitary Chambers,
Glasgow, 14th April, 1906.

II.—JENNY'S BURN.

Complaint having been made to the Corporation regarding the condition of this burn, the following report was prepared:—

Glasgow, 11th February, 1907.

To the Joint Sub-Committee of the Health and Statute
Labour Committees on the Condition of Jenny's Burn.

Gentlemen,

With reference to your minute, of date 24th January, remitting to the Medical Officer of Health, the Sanitary Inspector, the Superintendent of Parks, the City Engineer, and the Master of Works to inspect and report on the condition of this burn at Rutherglen Road, those officials beg to report that, accompanied by the Town-Clerk Depute (Mr. Lindsay) they visited the *locus* at Rutherglen Road on Wednesday, 30th ultimo.

They would, in the first instance, explain that Jenny's Burn is the name locally applied to that part of the Mallsmire or Polmadie Burn from the Clyde to its junction with the Westburn.

The portion of this burn from its junction with the Westburn southwards is better known as Mallsmire or Polmadie Burn.

Its condition has been frequently under consideration of the Corporation. It is recorded in the minutes of the Corporation in 1892 that both the above committees were making efforts to render its condition less objectionable, and in this and several subsequent years there are recurring references to the need for cleansing the bed of the burn by removing accidental obstruction to the flow of its water, and even to the desirability of cradling or covering it.

The reason for this action was that Jenny's Burn was admittedly polluted with sewage, and was, indeed, the natural channel through which the drainage of a considerable area on the south side of the river was disposed of. But the origin of the pollution was not confined to the lands which the extension of the boundaries in 1891 brought within the city area. The Westburn in its course is wholly outwith that area, and conveys some portion of the sewerage of Rutherglen; whilst the Mallsmire Burn, on the other hand, receives the sewerage of a considerable area at Mount Florida, as well as from the eastern portions of Polmadie. All this is within the knowledge of the Corporation, and, indeed, formed part of the argument for proceeding with the South-Side Sewage Scheme.

We should here mention that the centre line of the Mallsmire Burn for the greater part of its length is the boundary between the city area and the county. Of recent years, circumstances in connection with this burn have changed somewhat.

Changes affecting Mallsmire Burn.—In the first place, a considerable increase in house building has taken place in the Mount Florida area, and in a general way it may be said that all the houses in the southern portion of that district drain into the Mallsmire Burn, which passes through Mount Florida district as a sewer, and only again reverts to the form of an open channel near Aikenhead Colliery, below which it receives a small portion of the drainage of the eastern portion of Polmadie district. Thereafter it passes under the Caledonian Railway, and shortly afterwards joins the Westburn at the western side of the embankment adjoining what is known as No. 5 pit.

Changes affecting Westburn.—This burn also has sewage added to its waters before it joins Mallsmire to form what is locally known as Jenny's Burn. In following the course eastward from its junction with the Mallsmire Burn just referred to, the section which runs to the north of the Caledonian Railway receives chemical effluents from Shawfield Works, as also some sewage from Shawfield Villa, and possibly also from the chemical works. Pit water having an offensive smell is also pumped into it. After crossing to the south of the railway, it receives a considerable addition of domestic sewage, but particularly the contents of three cesspools, including the sewage from the smallpox hospital at Rutherglen. The contents of these are received by an 18-inch pipe, which is embedded in the centre of the burn, and laid for a distance of 150 yards down its course to a point where the level of the water has been raised by the erection of a weir, so that the sewage is discharged under water.

Changes affecting Jenny's Burn proper.—The extension of building along the line of Rutherglen Road has quite recently tended to make the condition of Jenny's Burn, as locally known, more clamant. Until within the last two years no tenement building existed on the line of Rutherglen Road to the east of Dalmeny Street. The whole sewage of the new buildings recently erected, and now in course of erection, on the south side of Rutherglen Road, between Dalmeny Street and the burn, discharges through a private sewer commencing at Dalmeny Street, and running eastward to Jenny's Burn. The sewage of the buildings to the west of Dalmeny Street flows westward to Polmadie Road, and thence northward through Richmond Park to the River Clyde.

Plans passed the Dean of Guild Court in February, 1906, for fourteen tenements fronting Rutherglen Road, the sewage from five of which discharges, and from seven of which will discharge, into Jenny's Burn.

On 13th September, 1906, further plans were approved of by the Dean of Guild Court for the drainage of new streets to be formed alongside Jenny's Burn and at right angles thereto, all of which are shown to be drained temporarily into that burn. These plans show that the ultimate intention of the proprietor is to connect these sewers to the new main sewer constructed, or in course of construction, by the Sewage Department, but the particular portion of that main sewer is not yet in use, and therefore the drains of those new streets and the buildings to be erected thereon cannot yet be connected to it.

Plans were before the Dean of Guild Court on 30th January, 1907, for other fourteen tenements in one of those proposed new streets, the drainage of thirteen of which is also shown to discharge temporarily into Jenny's Burn. The Master of Works took objection in the Court to those plans being sanctioned pending the consideration of the question by the Corporation, but he did not think, in view of the facts connected with the discharge of sewage into the burn from other districts, that he could, with any hope of success, continue opposition to the scheme.

Additional Circumstances.—The low-level intercepting sewer for this portion of the Southern Sewage Scheme unavoidably introduced a slightly complicating element. Its level on crossing Jenny's Burn is entirely determined by the levels obtaining elsewhere, but it results in fixing an upward limit beyond which the waters of the burn may not rise without meeting some small obstruction to their flow. In ordinary circumstances no obstruction may result, but when the burn is swollen with flood water the level of the water may rise above the bottom of this intercepting sewer.

When the reporters visited the *locus* at Rutherglen Road on 30th ultimo, they found the condition of matters very much improved from what it had been on a prior visit thereto by Councillor Young, the Master of Works, and the Town-Clerk Depute. At that prior visit the planks forming the weir in Richmond Park, erected by the Parks Department, were in their place; but on 30th ultimo these had been removed, and the burn water was running quite freely below the intercepting sewer put across the burn by the Sewage Department. There was not, on 30th ultimo, the accumulation of filth at Rutherglen Road that there had previously been.

At an inspection made on 1st current by the Master of Works, it was obesrved that the flow of the burn was obstructed at the main sewer on account of high water for an hour and ten minutes—namely, from 2.40 till 3.50 p.m. The rise in the tide during that period was nine inches. For the remainder of the tidal period the water of the burn was flowing freely under the main sewer. During the time the weir had been in place the level was such that the water of the burn had been dammed back above the bottom of the main sewer, so that floating matter was caught by the main sewer, and so caused an objectionable condition of matters at Rutherglen Road. According to information received by the Master of Works from the Clyde Trustees, high water on the date in question (1st current) was about seven inches higher than the ordinary high water.

In the foregoing state of matters, and after mutual conference and full consideration, the reporters suggest that, as a temporary expedient, and one which would materially remove the cause of complaint, the sewers which are shown to drain the tenements already erected, and those proposed to be erected between Dalmeny Street and Jenny's Burn, should be disconnected from that burn where they at present join it, and be carried across Rutherglen Road and underneath the main intercepting sewer, and discharge into the burn at a point north of that sewer. They also recommend that the weir in Richmond Park should not be re-erected in the meantime, and that where the burn spreads out to some breadth it should be deepened so as to confine the water of the burn to a narrower channel, and also that the banks of the burn should be cleaned where, at present, silt is collected.

No doubt the sewer from the new tenements could be extended along the bed of Jenny's Burn to the Clyde, and so remove from the burn the sewage that is at present discharged into it at or near Rutherglen Road from those tenements; but the reporters do not think that the improvement that would thereby be effected would be worth the cost, considering the discharge of sewage from Mallsmire Burn and the Westburn, and that the main intercepting sewer which will receive the whole sewage of those burns, as also that of the Burgh of Rutherglen, will be in use within a period which the City Engineer estimates at two years from now.

The Superintendent of Parks has arranged that, every morning, any refuse or obstruction that may be at the main sewer within the park be cleared away by his staff.

On 4th current the Master of Works had an interview with Mr. Stevenson, the proprietor of the new tenements referred to, and his engineer, and they are prepared to forthwith disconnect their existing temporary connections to the burn, and extend their private sewer as above proposed. If this be done, and the bed of the burn cleaned, any rubbish being removed so as to permit a freer flow of water (and, in the special circumstances of the case, the Master of Works sees no reason why the Statute Labour Committee should not undertake this cleansing from the park railing at Rutherglen Road southward to its junction with the Westburn), the reporters do not think that there would be any need, in the meantime, for anything further being done.

They ask, however, that the remit to them should be continued, so that the subject-matter shall be under their close observation for further report and remedy, if such be deemed necessary.

Appended hereto is a report by the Bacteriologist on the bacterial contents of the water of Jenny's Burn above the point where the two temporary drains join the burn at Rutherglen Road Bridge. That report, it will be noted, is dated 31st December last, which is, of course, some time before the removal of the weir in Richmond Park.

(Signed) A. K. CHALMERS.
PETER FYFE.
JAMES WHITTON.
A. B. M'DONALD.
THOS. NISBET.

[Copy.]

Glasgow Public Health Laboratory,
31st December, 1906.

The samples of water taken in sterilised bottles by Dr. Buchanan, in company with Dr. Alexander Jamieson, Rutherglen Road, on 14th December, have been submitted to bacteriological examination, with the following results:—

Jenny's Burn.—The sample is greyish, turbid, and of a disagreeable odour. It was taken from the side of the burn just before it passes under Rutherglen Road, and above the entrance of the sewers there.

Bacterial Content, ...	545,000 per cc.
Bacillus Coli, ...	present in $\frac{1}{100}$ cc.
Bacillus Enteritidis Sporogenes, ...	,, 1 cc.
Coliform organisms—	
(*a*) Organisms of the B. Pneumoniae Group, ...	.. $\frac{1}{100}$ cc.
(*b*) Organisms of the B. Acidi Lactici Group,	,, $\frac{1}{100}$ cc.
Bacillus Typhosus, ...	no trace found.

These results not only confirm what is evident to the senses of sight and smell—namely, gross pollution—but they indicate conclusively that there is pollution with sewage.

(Signed) R. M. BUCHANAN.

III.—CRAIGTON BURN.

During the year a nuisance alleged to exist in connection with the sewage at Marylands, Halfway, was reported upon in the following terms:—

REPORT BY MEDICAL OFFICER OF HEALTH ON ALLEGED NUISANCE AT MARYLANDS, GOVAN (CRAIGTON SEWER).

In September last the Town-Clerk forwarded to me copy of a letter he had received from the Local Government Board forwarding a complaint by Mr. Robert Watson, of Laurieston. In this letter it was stated that the writer had been instructed by several of the feuars of the lands at Halfway, Ibrox, to enclose a protest by them against the continuance of a nuisance alleged to arise from the discharge of sewage into Craigton Burn. It was stated that—"The liquid matter allowed to flow from the receptacles in which the sewage gathers and is imprisoned flows into a shallow uncovered ditch and on into Govan. It is exposed to the sun, and, being impregnated with everything that is foul and therefore dangerous to health, the smell coming from it is smelt for a great distance around, the air being permeated with foul gases. This is greatly increased when the great tanks are opened, and large quantities of matter discharged and carried off in cart loads. I am informed that the adjoining cemetery of Craigton is drained into the tanks referred to."

This is the latest phase of a question which for a considerable period has claimed a good deal of attention from the Corporation of Glasgow and other parties interested, viz., how the area of building land at this portion of the south side of the river may have its sewage dealt with in a temporary manner pending the completion of the Southern Sewage Scheme, within which this area is included.

So far back as 1897 the Statute Labour Committee of the Corporation had under consideration a letter from the Town-Clerk of Govan stating that it had been pointed out to the Commissioners of that burgh that sewage from the new houses in the course of erection on the lands of Maryland was being led into Langlands Burn, which would lead to the burn—already, in their view, an open ditch—becoming a nuisance, and asking the Corporation to take steps to obviate it.

At a subsequent meeting (4th June, 1897) the Master of Works reported that the burn in question is the natural drainage outlet for the district; that it flows through a considerable part of the unbuilt lands in Govan Burgh, and receives in its course drainage from pipes in that burgh as well as from Glasgow; that there is no doubt that as the buildings increase a nuisance will be caused, but that at present he did not consider there was anything requiring immediate action.

During the course of the following month (July, 1897) a petition was presented to the Dean of Guild Court for authority to erect additional dwelling-houses on the aforesaid lands at Maryland, and it was remitted to a sub-committee of the Glasgow Corporation to confer with the Commissioners of the Burgh of Govan regarding the action that should be taken in the matter.

In October following these committees met, and, after inspecting the course of the burn, "agreed to defer consideration pending a section of the sewage belonging to Govan being handed over to the Master of Works for his information and consideration" (page 111, Vol. XXV.).

No further action is recorded until 15th December, 1898, when the minutes show that the Master of Works was instructed to prepare and submit a plan of the district, and the Clerk was instructed to consider whether the proprietors of the lands in question might themselves be called upon to provide suitable drainage. During the same month, notices were served by the Master of Works on the proprietors requesting them to clean the burn within their respective ownerships.

In October, 1899, it was suggested that the Stanley Street sewer in the Burgh of Govan should be used for the Glasgow sewerage.

Nothing would appear to have been recorded between this date and August, 1901, when the name "Craigton" instead of "Langlands" Burn is for the first time introduced, and the origin of the sewage is said to be the Halfway houses. It was then resolved to remit to the sub-committee previously appointed, with power, if need be, "to take whatever temporary steps might be regarded as necessary with the view of lessening the nuisance in the meantime, pending the development of the South-Side Sewage Scheme, which, when constructed, would be an effectual remedy for the nuisance complained of." Here is a frank confession that nuisance exists.

The matter was again considered in September, 1902, on receipt of a letter from the law agents of the Craigton Estate complaining of the want of adequate provision for draining the district, and in the same month the following extract brings the movement for removing the nuisance a step further on. The Master of Works explained "that the outfall sewer No. 1 to be constructed in connection with the South-Side Sewage Scheme would provide drainage outfall for the district," and suggested "that, if the Corporation would construct a cesspool at the point where the Craigton Burn passes under the Glasgow and Paisley Joint-Railway, and if the Craigton Brick-making and Feuing Company, Ltd., and the Trustees of the late Mr. T. D. Smellie would combine in the maintenance and cleansing of that cesspool at the point, and in the construction of temporary private sewers leading into that cesspool, the cesspool and these sewers might be accepted by the Corporation and the Town Council of Govan as drainage provision meantime, and that the Corporation should meantime clean out the Craigton Burn. The sub-committee approved, and agreed to recommend accordingly." Subject to certain provisions, this proposal was accepted by the Town Council of Govan, and urgency was given to the formation of the cesspool in view of the nature of the complaint.

In December, 1902, some uncertainty seems to have arisen as to the source of some part at least of the sewage discharging into the burn, and in May, 1903, there is a reference to a notice having been served, under Section 19 of the Public Health Act, by the Sanitary Inspector of Govan, upon one of the tenants of the houses within the city boundary. It would appear, however, that the nuisance was not committeed, or at least did not appear, until it had emerged from the city boundary. The matter was left in the hands of the tenant and the Govan Authorities.

In February, 1904, questions as to the drainage of that portion of Bellahouston Park which was to be feued were added to the problem, and in May, 1904, the Town Council of Govan intimated that, before granting the additional facilities for draining into the Craigton Burn, they would like to see what effect the filter attached to the cesspool had on the condition of the burn.

By February, 1905, it was discovered that the cesspool was not dealing efficiently with the quantity of sewage being conveyed to it, so that the proposal to increase the quantity to be dealt with by the addition of the drainage of the feuing portion of Bellahouston Park could not be entertained by the Corporation of Govan. Some alterations in the cesspool were then suggested, and the Master of Works was authorised to carry them into effect.

The result of these alterations was stated at a meeting on 5th June, 1905, as being satisfactory.

The further development, however, of the area for feuing purposes becomes obvious in November, 1905, when "further negotiations with the proprietors of the lands of Ibrox, Craigton, and Marylands with reference to the drainage outfall of these lands, the feuing of which had been delayed owing to the want of such outfall," were reported, and the sub-committee agreed to recommend that "to enable the feuing of these lands, also the feuing of Bellahouston Park, to be proceeded with, the Master of Works be authorised to construct an addition to the existing purification tank at Craigton Burn, or a new purification tank there, when necessity therefor should arise."

We may now take up the question at the point which had been reached when the letter from the Local Government Board was received. On receipt of this letter some time was spent in collecting information of the past history of the question, and it was not until early in October, 1906, that a visit was made to the burn in question. It was then found that a series of tanks bordering on the railway, and forming receptacles for the contents of the sewer, were being cleaned out, and that what was described as their filtering material had just been removed. For this purpose the sewage had been diverted, and was being discharged directly into the burn above the tank, through what I understand forms the storm overflow of the sewer in question.

Course of Craigton Burn above the Tanks.—The water in Craigton Burn above the junction of the effluent from the sewer at the present moment looks clear and limpid. At about eighty-seven paces south of the tanks the burn turns abruptly at a right angle to the west, and runs parallel to the railway line, although at some distance from it. At this turn it is joined by a square-built culvert, up which a stick may be pushed for four or six feet. This culvert is one foot square, and is said to be the original outlet of the sewer designed to drain the houses immediately to the south, and which are now supplied by the sewer entering the tank previously referred to. From this point westwards in the direction of the cemetery the water is clear, but also at the same time the stream may be said almost to cease. It has no smell and no deposit, and watercress was found growing along the edges. Indeed, as one goes westward from the bend just described, Craigton Burn is little better than a shallow ditch alongside a hedge, with no perceptible flow and no pollution. The depression in which it lies becomes shallower, so that it almost ceases to exist just as it enters the recent extension of Craigton Cemetery, where it abuts on the railway line.

Description of Course of Craigton Burn after receiving Effluent from the Tanks.—After receiving the effluent from the sewage tank the Craigton Burn, before passing under the Glasgow and Paisley Joint-Railway, receives the overflow from a clay-hole now being used as a "coup." After passing under the railway it receives, at a short distance therefrom, the effluent from a stagnant marsh. Several yards further along there is a discharge from a drain pipe of what appears to be sewage from the Clyde Engine Works and the Greenhaugh Saw Mills. There are five other outlets of field drains, and one discharges condensed steam from an engine.

The burn is open from the railway, with the exception of eleven yards at the cycle track, which is boarded over, until it reaches Crossloan Road, Govan, under which it disappears.

Area and Population dealt with by the Tanks.—On enquiry at the Master of Works I find that the number of houses draining into the tanks above mentioned is 105, and that the population may be estimated at about 500. The toal area drained, however, extends to about ninety acres. When the tanks were completed on 16th July, 1903, it would appear that they consisted of one settling and two filtering tanks, with a total capacity of 7,140 gallons, and that the original method of working was by sedimentation and filtration. As has already been stated, extension subsequently took place, and at the present time the tanks deal with an average daily volume of flow which the Master of Works estimates at about 15,000 to 20,000 gallons. Moreover, the method of treatment has been changed. The filtering material has been removed, and the discharge at the outflow is now taken off about one foot below the surface of the contained water.

Description of Present Tanks.—The present system comprises two groups of tanks, viz., a settling tank and sludge pit, and, secondly, the original filtration tanks, now used simply as an additional series of settling tanks, but in respect that their outflow is now under water level, providing after a certain manner some facilities for the action of aerobic organisms.

The settling tank measures 20 feet by 8 feet, with an average depth below the inlet of 5 feet. On one side, and communicating with it, is the sludge pit, which is 6 feet by 5 feet, with a depth of 17 feet.

The settling tank has two transverse partitions, dividing it into three compartments. These partitions extend from the *bottom* to the level of the sewage inflow. In addition, there are three supplementary partitions, which alternate with those just described, and extend from the surface two feet below the sewage level.

From the settling tank the sewage is carried by two discharging channels to what used to be the filtration tanks. These channels lead into a distributing compartment, from which the sewage is directed into one or more of the four sections of the outflow tank.

These sections are placed side by side, and are similar in plan. The sewage is led into each section by inlets from the common compartment above mentioned, while it discharges therefrom by an outlet pipe guarded by wooden screens. The outlet pipes discharge about a foot below the level of the surface of the sewage tank.

Each section measures 16 feet by 4 feet by 11 feet, divided transversely by a partition, with a passage in its lower part, thus forming two chambers. The whole system is estimated to deal with 1,500 gallons per hour.

Appended to this report are two prepared by Mr. Harris at dates before and after the alteration of the tanks during the winter months. The first report is dated 17th September, 1906, and the second 29th December, 1906. The latter refers to samples taken during a joint-visit made by us on 17th December. At this visit the subjoined notes were made.

From Mr. Harris's earlier report it will be seen that at the time of Mr. Watson's communication to the Board the discharge from the tanks was objectionable, but that, as a result of the alterations in the method and the substitution of a simple septic tank of continuous action, a considerable improvement has been effected. Chiefly, however, it should be kept in view that the arrangement is entirely temporary, and will be abandoned on the completion of the South-Side Sewage Scheme.

(Notes above referred to.)

The condition of the burn—

(1) Above the tanks;

(2) Below the tanks after the sewage effluent had entered it; and

(3) The tanks themselves were all inspected and samples were taken—

(*a*) Just above the sewage outfall;

(*b*) From the effluent just before joining the burn;

(*c*) From the burn on the other side of the railway line from the tank, and consequently at a distance of a considerable number of yards therefrom.

1. The condition of the burn above the tanks was unobjectionable, no smell coming from it. A sample was taken at this place for analysis.

2. The effluent discharging into the burn below the tanks was inspected. No smell was observable from the two discharge pipes; there was no fungus or other growth above the two discharge pipes, or on the banks of the burn immediately adjacent.

A sample of the effluent as it left the pipes was secured. The condition of the burn down from this point and on the other side of the railway was inspected, and proved to be in a fairly satisfactory condition. A third sample from a point beyond the railway was taken.

3. The entrance of the sewage into the tanks was seen, and the sewage undergoing sedimentation in the tanks. On removing the board covering the most easterly of the tanks a very powerful disagreeable odour was present. In these two easterly tanks a dirty white scum was observed on the surface of the sewage undergoing sedimentation.

The smell was not so observable in the other tanks, probably owing to the fact that their board coverings had been lifted for some time before our arrival.

Present Condition of Burn. — At the time the tanks were altered the burn was cleaned, and at the present moment it is unobjectionable — *i.e.*, there is no obvious deposit on its banks, and the atmospheric conditions do not foster the spread of smell. It is to be remembered, however, that the present expedient is only a temporary one. I speak here from information supplied by the Master of Works that the tanks will cease to be used when the portion of the South-Side Sewage Scheme from Shieldhall to the point in question is completed; that the contract for the construction of this part was let some weeks prior to the date of his writing—namely, October, 1906; and that the time allowed the contractor for the completion of the work was twelve months.

At the part of the burn which is open there are no houses, and the exercise of a reasonable amount of care of the tanks and of the burn during the ensuing summer should prevent the conditions becoming injurious to health, although under conditions of high temperature and atmospheric humidity offensive smells may be generated.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, 22nd March, 1907.

[Copy.]

Chemical Department, 26 John Street,
Glasgow, 17th September, 1906.

Thomas Nisbet, Esq.,
Master of Works,
City Chambers.

Dear Sir,

I herewith submit my report on the results of the analyses of three samples of crude sewage and sewage effluent collected at the Craigton Sewage Purification Tanks at 3 p.m. on 27th August, 1906.

ANALYSIS.

(Results expressed in Grains per Gallon.)

	No. 1.	No. 2.	No. 3.
Free and Saline Ammonia,	0·63	0·84	0·77
Albuminoid Ammonia,	0·212	0·246	0·224
Chlorine,	3·5	4·9	5·6
Oxygen absorbed in 15 minutes at 27°C.,	0·450	0·570	0·384
Oxygen absorbed in 4 hours at 27°C.,	0·893	1·520	0·693
Suspended Mineral Matter,	0·42	2·24	0·70
Suspended Organic Matter,	0·56	3·36	0·14
Total Suspended Solids,	0·98	5·60	0·84
Dissolved Mineral Matter,	22·68	30·80	19·88
Dissolved Organic Matter,	3·36	2·24	3·08
Total Dissolved Solids,	26·04	33·04	22·96
Oxygen dissolved,	Nil	Nil	0·14

No. 1.—" Sample of Sewage taken from Inlet Pipe."

No. 2.—" Sample of Sewage taken from Feed Channel."

No. 3.—" Sample of Effluent taken from Outlet Pipe where it discharges into the Craigton (or, as it is further down called, the Drumoyne) Burn."

Analytical Data calculated to a Common Chlorine Figure.

	No. 1.	No. 2.	No. 3.
Free and Saline Ammonia,	0·630	0·600	0·481
Albuminoid Ammonia,	0·212	0·176	0·140
Chlorine,	3·5	3·5	3·5
Oxygen absorbed in 15 minutes at 27° C.,	0·450	0·407	0·240
Oxygen absorbed in 4 hours at 27° C.,	0·893	1·086	0·433

In expressing my opinion on the analytical results above tabulated, I think it preferable to discuss these results from two standpoints, namely:—

Firstly, the purification effected by the process in operation at the Craigton Works.
Secondly, the condition of the effluent in regard to purity.

The Purification effected by the Process in Operation at the Craigton Works.

As the three samples—representing respectively the inflowing crude sewage, the partially chemically treated sewage, and the filtered effluent—were each collected at the same time—namely, 3 p.m., 27th August—the analytical results obtained are not strictly comparable.

This is substantiated by the variation in the chlorine figure—the only figure the proportion of which is unaltered during the process of purification. Therefore, to arrive at a conclusion as to the extent of purification effected at the works, I have recalculated the most important analytical data to a common chlorine figure, and the results thus obtained are tabulated on the second table.

From these figures I calculate that the objectionable nitrogenous matter contained in solution in the crude sewage has by the process of purification been reduced by about 30 per cent.—a figure equivalent to what generally results from septic-tank treatment of domestic sewage.

Condition of the Effluent in regard to Purity.

In expressing an opinion on the purity of the effluent, in addition to the chemical data obtained by the analysis of the effluent, due consideration must be directed to the method of treatment.

I may, at the outset, state that the crude sewage treated at the works is of a very weak nature, consequently any system of purification, however imperfect, would result in the production of an effluent which on analysis would yield a comparatively low albuminoid ammonia and oxygen absorbed figure. This is the case in regard to the effluent in question.

The analytical data obtained was, however, not restricted to the figures as evidenced by the tabulated results.

In addition, "incubator tests" and a biological examination of the effluent were carried out.

From a consideration of the analytical and biological results obtained, I am of opinion that the condition of the effluent is very unsatisfactory; notwithstanding the comparative lowness of the albuminoid ammonia and oxygen absorbed figures, the effluent rapidly undergoes secondary decomposition, emitting an extremely obnoxious odour, sulphuretted hydrogen.

The direct cause of this secondary decomposition, together with the production and emanation of this objectionable odour, is the extensive growth of the sewage fungus.

This fungus forms a dirty grey growth which covers the bricks, filling the so-called filtering tanks; even in the distributing channels the growths are very numerous.

Samples of the deposit at the bottom of the burn were also submitted to microscopical examination, which revealed the presence of sewage fungus.

These samples, after keeping a day or two, emitted a pronounced odour of sulphuretted hydrogen.

The unsatisfactory condition of the effluent is undoubtedly directly attributable to the method of treatment in vogue.

Whilst the method adopted to treat the crude sewage with chemical precipitating agents is not entirely satisfactory, I would unhesitatingly condemn the system of so-called filtration in operation at the works.

The quantity and nature of the chemicals employed do not suffice to retard the continuance of bacteriological action in the treated sewage, and this fact, together with the mode of working the so-called filtering tanks, is sufficient to convert the latter into nothing but septic tanks, resulting in the outflowing effluent being more putrescible than the inflowing partially treated sewage.

As remedial methods, I would suggest—

First, that the material contained in the filtration tanks be permanently removed, and that the tanks be thoroughly cleansed.

Second, that, if necessary, the growth of the fungus in the burn be inhibited by the addition of a minute quantity of a germicidal substance to the water. Sulphate of copper has been employed in Germany for this purpose. One part of this salt per million parts of water being found very efficacious in inhibiting vegetable and fungus growth.

Third, that, in its present condition, the effluent be passed through a fine gauze screen before discharging into the burn.

Fourth, that the system of purification be altered. The most satisfactory results at the least cost would be obtained by the adoption of the bacteriological system worked automatically.

I remain,

Yours faithfully,

(Signed) F. W. HARRIS.

ANALYSES OF SAMPLES OF SEWAGE TAKEN AT CRAIGTON BURN.

Results expressed in Grains per Gallon.

	No. 1.	No. 2.	No. 3.
Free and Saline Ammonia,	0·0043	0·8400	0·7700
Albuminoid Ammonia,	0·0077	0·2120	0·1900
Chlorine,	2·1000	2·8000	3·5000
Oxygen absorbed in 15 minutes at 27° C.,	0·0505	0·1277	0·1005
Oxygen absorbed in 4 hours at 27° C.,	0·1440	0·7198	0·3403
Suspended Solids,	...	3·7800	3·5000
Mineral,	...	2·9400	2·5200
Volatile,	...	0·8400	0·9800
Dissolved Solids,	21·8400	29·9600	35·2800
Mineral,	19·8800	25·4800	30·2400
Volatile,	1·9600	4·4800	5·0400
Dissolved Oxygen (ccs. per litre) 14° C.,	6·065	2·009	2·642
Nitrogen as Nitrates,	0·0931	0·4380	0·2997

Incubator Test.

	No. 1.	No. 2.	No. 3.
Oxygen absorbed in 3 minutes before incubation, ...	0·0355	0·0747	0·0620
Oxygen absorbed in 3 minutes after 2 days' incubation at temperature of Laboratory, ...	0·0206	0·0608	0·0524

Sample No. 1.—Burn water above outfall.

Sample No. 2.—Sewage outfall.

Sample No. 3.—Burn water below outfall.

From a consideration of these results, I am of opinion the condition of the effluent discharged from the Craigton Works shows considerable improvement in regard to purity compared with the former analyses, a copy of which has been forwarded to you.

The amount of putrescible matter as represented by the albuminoid ammonia and fifteen minutes oxygen absorption figures shows considerable reduction, whilst the results of the incubator test indicate that the sample is slightly putrescible.

F. W. HARRIS, F.I.C.,
Per T. COCKBURN.

29th December, 1906.

SECTION VI.

(*D*) SPECIFIC ACCOUNT OF THE ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN WORKSHOPS AND WORKPLACES, IN TERMS OF SECTION 132 OF THAT ACT, TOGETHER WITH A TABULAR STATEMENT IN THE FORM ISSUED BY THE HOME OFFICE.

REGISTER OF WORKERS.

Table XLIII. contains a statement of the number of laundries, bakehouses, restaurant kitchens, other food places, and all other workshops, as well as the total number of workshops in each Ward in the City. The total number of workshops in the city is 5,248, as against 4,961 on the register last year; the number of inspections made, 34,348; and the number of notices issued, 1,822.

Table No. I. of the Home Office list, which forms Table XLIV. of the present Report, requires that the number of inspections of such factories and factory laundries as are by Section 103 of the Factory Act placed under the jurisdiction of the Local Authority for sanitary purposes, and also of workplaces as distinct from workshops should be stated, but the total visits are here included under workshops.

To outworkers' premises, 3,072 visits were made during the year, 2,390 of these being to home-workers' premises and 682 to contractors.

Table XLV.—Glasgow, 1906.—NUMBER of Workshops on the Register, with Number of Inspections and Notices.

Municipal Wards.	Laundries.	Bakehouses.	Restaurant Kitchens.	Other Food Places.	All Other Workshops.	Total Workshops.	Number of Inspections.	Number of Notices.
1. Dalmarnock. ...	10	24	18	1	147	200	1.199	36
2. Calton, ...	13	23	15	19	423	493	5,391	171
3. Mile-end, ...	13	30	15	4	134	196	1,531	52
4. Whitevale, ...	5	30	16	8	139	198	2,158	53
5. Dennistoun, ...	6	16	3	1	91	117	931	27
6. Springburn, ...	7	5	8	...	52	72	500	28
7. Cowlairs, ...	5	3	14	...	45	67	588	36
8. Townhead. ...	8	14	8	...	124	154	1,404	67
9. Blackfriars, ...	3	13	12	8	370	406	3,492	164
10. Exchange, ...	2	10	29	7	442	490	2,345	165
11. Blythswood. ...	...	6	33	5	325	369	2,777	152
12. Broomielaw, ...	3	5	27	13	311	359	3,207	150
13. Anderston, ...	8	3	23	1	108	143	172	16
14. Sandyford, ...	8	18	6	...	207	239	455	38
15. Park, ...	8	8	4	...	150	170	239	30
16. Cowcaddens, ...	13	23	15	1	165	217	1,891	127
17. Woodside, ...	19	9	7	2	130	167	1,115	72
18. Hutchesontown,	13	11	9	10	92	135	1,082	116
19. Gorbals, ...	17	16	10	6	356	405	2,339	175
20. Kingston, ...	15	13	20	6	208	262	1,576	148
21. Govanhill, ...	7	9	...	...	48	64	24	...
22. Langside, ...	9	10	...	...	56	75	32	...
23. Pollokshields, ..	9	5	...	...	14	28	65	1
24. Kelvinside, ..	5	1	1	...	70	77	59	...
25. Maryhill, ...	10	7	6	...	70	93	29	1
26. Kinning Park, ...	4	7	...	...	41	52	61	4
City, ...	220	319	299	92	4,318	5,248	34,662	1,829

TABLE XLVI.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

INSPECTION.

(Including Inspections made by Sanitary Inspectors.)

Premises. (1)	Number of Inspections. (2)	Number of Written Notices. (3)	Number of Prosecutions. (4)
Factories (including Factory Laundries), ...	...	...	...
Workshops (including Workshop Laundries), Workplaces (other than Outworkers' Premises included in Part 3 of this Report), ...	34,662	1,829	...
Total, ...	34,662	1,829	...

DEFECTS FOUND.

Particulars. (1)	Number of Defects: Found. (2)	Number of Defects: Remedied. (3)	Number of Defects: Referred to H.M. Inspector. (4)	Number of Prosecutions. (5)
* Nuisances under the Public Health Acts—				
Want of cleanliness, ...	757	765	...	...
Want of ventilation, ...	37	30	...	...
Overcrowding, ...	7	7	...	...
Want of drainage of floors, ... Other nuisances, ...	847	886	...	...
Sanitary accommodation—(*a*) Insufficient, ... (*b*) Unsuitable or defective, (*c*) Not separate for sexes,	181	165	...	...
Offences under the Factory and Workshop Act—				
Illegal occupation of underground bakehouse (Section 101), ...	...	...	...	...
Breach of special sanitary requirements for bakehouses (Sections 97 to 100), ...	...	...	...	...
Other offences, ...	...	...	...	...
(Excluding offences relating to outwork which are included in Part 3 of this Report.)	...	...	...	...
Total, ...	1,829	1,853	...	...

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* Including those specified in Sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

HOME WORK.

NATURE OF WORK.*	OUTWORKERS' LISTS, SECTION 107.												Number of Inspections of Outworkers' premises.		OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.					OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.						Numbers of Addresses of Outworkers received from other Councils.		Numbers of Addresses of Outworkers forwarded to other Councils.		Prosecutions.											
	Twice in the year.			Once in the year.																		
(1)	Lists. † (2)	Outworkers. † (3)		Lists. (4)	Outworkers. (5)		(6)		(7)		Failing to keep or permit inspection of lists. (8)	Failing to send lists. (9)	(10)		Instances. (11)		Notices served. (12)		Prosecutions. (13)	Instances. (14)	Orders made (S. 110). (15)	Prosecutions (Sections 109, 110). (16)
		Home-workers.	Contractors.		Home-workers.	Contractors.	Home-workers.	Contractors.	Home-workers.	Contractors.			Home-workers.	Contractors.	Home-workers.	Contractors.	Home-workers.	Contractors.				
Wearing apparel—																						
(1) making, &c.,... ...	788	2,497	997	84	99	80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(2) cleaning and washing,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lace, lace curtains and nets,	10	6	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Furniture and upholstery, ...	16	14	23	1	...	2	...	....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fur pulling, ...	4	4	3	...	...	...	...	....	...	...	...	....	...	...	....	...	...	...	...	...	...	...
Umbrellas, ...	12	68	4	4	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paper bags and boxes, ...	22	17	26	4	2	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brush making, ...	2	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Stuffed toys, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
File making,...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Electro-plate, ...	58	15	119	8	...	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Cables and chains, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anchors and grapnels, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cart gear, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Locks, latches, and keys. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total, ...	912	2,623	1,197	102	106	98	4	9	282	30	...	2	2,390	682	29 ‡	19 ‡	29	19	...	...	...	...

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* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 4 as the case may be) against the principal class *only*, but the outworkers should be assigned in column 3 (or 5) into their respective classes. A footnote should be added to show that this has been done.

† The figures required in columns 2 and 3 are the *total* number of lists received from employers who sent them both in February and August as required by the Act and of the entries of names of outworkers in those lists. They will, therefore, usually be double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

REGISTERED WORKSHOPS.

	Workshops on the Register (Section 131) at the end of the year. (1)		Number. (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Laundries, ...		220
	Bakehouses:—		
	Underground, ...	80	
	Overground, ...	239	319
	Restaurant Kitchens, ...		299
	Other Food Places, ...		92
	All other Workshops, ...		4,318
	Total number of workshops on Register, ...		5,248

OTHER MATTERS.

Class. (1)		Number. (2)
Matters notified to H.M. Inspector of Factories:—		
Failure to affix Abstract of the Factory and Workshop Act (Section 133), ...		36
Action taken in matters referred by by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (Section 5) ...	Notified by H.M. Inspector, ...	21
	Reports (of action taken) sent to H.M. Inspector, ...	21
Other, ...		...
Underhouse Bakehouses (Section 101):—		
Certificates granted during the year, ...		15
In use at the end of the year, ...		80

Note.—The Factory and Workshop Act, 1901 (Section 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, laundries, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

July 31*st*, 1907.

TABLE XLVII.

WORKSHOPS MEASURED AND REGISTERED DURING 1906.

Nature of Workshop.	Number of Workshops.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space for each Person.
I. Professional Occupations and their Subordinate Services—							
1. Medical—							
Dentists' Mechanics, ...	3	3	6	...	...	1,687·3	843·6
2. Art, Music, Drama, &c.—							
Engravers, ...	3	3	5	...	1	5,332·3	2,666·1
Photographers, ...	8	19	9	20	7	2,253	1,189·1
Poster Artist, ...	1	2	2	...	2	1,599·5	799·7
Sculptor, ...	1	1	1	...	1	2,405	1,202·5
II. Domestic Offices or Services—							
Laundries, ...	22	41	2	74	11	2,279·7	1,143·3
III. Mines and Quarries—							
Marble Cutters, ...	3	3	8	...	...	3,876	1,454·7
IV. Metals, Machines, Implements, and Conveyances—							
1. Engineering & Machine Making—							
Brassfinishers, ...	4	4	6	...	1	5,066·7	2,895·2
Electrical Engineers, ...	5	6	13	4	2	6,041·6	1,907·8
Farrier, ...	1	1	2	...	...	3,978	1,989
Pattern Maker, ...	1	1	6	...	...	17,482	2,913·6
2. Tools—							
Cutler, ...	1	1	1	...	...	2,049	1,024·5
Band Saw Maker, ...	1	1	4	...	2	7,973	1,328·8
3. Miscellaneous Metal Trades—							
Chain Maker, ...	1	1	11	...	...	20,880	1,898·1
Fireproof-door Maker, ...	1	1	8	...	...	14,400	1,800
Iron Clasp Maker, ...	1	1	2	4	...	11,000	1,833·3
Locksmiths, ...	2	2	3	...	...	4,267·5	2,845
Metal Refiner, ...	1	1	6	...	...	72,540	12,090
Tinsmiths, ...	3	5	7	4	...	3,468	1,576·3
Wire Workers, ...	2	2	10	...	...	7,751·5	1,550·3
4. Ships and Boats—							
Boat Builders, ...	2	4	5	...	3	8,041·2	4,020·6
5. Vehicles—							
Blacksmiths and Van Builders, ...	8	8	22	...	...	10,619·3	3,861·5
Carriage Builders,... ...	3	9	43	...	7	17,033·5	2,926
Cartwright, ...	1	1	2	...	...	7,038	3,519
Cycle Makers and Repairers.	8	10	27	...	1	6,215·9	2,219·9
6. Dealers—							
Mill Furnisher, ...	1	1	3	...	...	6,006	2,002

WORKSHOPS MEASURED AND REGISTERED DURING 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space for each Person.
. Precious Metals, Jewels, Watches, Instruments, and Games—							
1. Precious Metals and Jewellery—							
Jewellers, Goldsmiths, Watch and Clock Makers, ...	16	17	26	4	4	1,918	959
Silver Powder Merchant, ...	1	1	...	3	1	2,052	513
2. Watches and Scientific Instruments—							
Surgical Instrument Maker,	1	1	2	...	...	4,902	2,451
Artificial Limb Maker, ...	1	1	3	...	...	3,613	1,204·3
3. Musical Instruments—							
Piano and Organ Makers,	6	6	12	5	4	13,194·6	3,769·9
4. Apparatus for Sports and Games—							
Golf-club Makers, ...	2	3	11	1	3	4,759	951·8
Sporting Utensils, ...	1	1	1	...	1	5,162	2,581
. Building and Works of Construction—							
1. House Building, &c.—							
Cistern Maker, ...	1	2	3	...	...	2,367	1,644·6
Glaziers, ...	3	3	9	...	1	8,705·3	2,611·6
Joiners, ...	19	20	69	...	5	7,414·6	2,003·9
Painters, ...	3	4	9	...	3	1,914·7	621·5
Plumbers, ...	45	49	170	...	43	3,618·8	832·5
Stair Railer, ...	1	1	8	...	...	17,791	2,223·8
. Wood, Furniture, Fittings, and Decorations—							
1. Furniture, Fittings, and Decorations—							
Upholsterers, ...	10	15	33	12	7	6,244·2	1,801·2
Upholstery Trimming Makers, ...	2	2	1	27	10	14,923·5	785·4
Shroud Maker, ...	1	1	...	4	...	2,688	672
Picture-frame Makers, ...	7	7	16	...	7	4,297·4	1,307·9
Modellers, ...	3	5	20	...	2	5,777	1,312
Basket Makers, ...	2	2	4	...	...	3,021	1,510·5
Bedding Manufacturers, ...	3	5	15	9	...	12,387·2	2,580·6
Blind and Sunshade Maker,	1	1	2	...	...	5,795	2,897·5
Box Maker, ...	1	1	1	...	...	2,036	2,036
Cabinetmakers and French Polishers, ...	33	43	93	55	12	6,739·6	1,811·2
Carvers and Gilders, ...	14	22	136	6	7	5,789·4	854·7
Coffin Makers, ...	2	4	8	...	...	3,072·7	1,536·3
2. Wood and Bark—							
Showcase Maker, ...	1	1	3	1	...	3,771	942·7
Trunk Maker, ...	1	2	11	1	3	14,008·5	1,867·3
Coopers, ...	3	4	14	...	...	6,199·2	1,771·2
Cork Cutter, ...	1	1	1	1	...	6,063	3,031·5
Fancy-box Makers, ...	3	4	6	37	8	14,728·5	1,155·1
I. Brick, Cement, Pottery, and Glass—							
Sandblasting, ...	1	1	1	...	...	5,742	5,742
Glass Stainers and Embossers, ...	3	8	21	...	3	11,376·2	3,792

WORKSHOPS MEASURED AND REGISTERED DURING 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Nnmber of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cu Feet of Spac each Perso
IX. Chemicals, Oil, Grease, Soap, Resin, &c.—							
1. Salt, Drugs, and other Chemicals and Compounds—							
Manufacturing Chemists,	2	4	4	11	1	16,872	2,109
2. Oil, Grease, Soap, Resin, &c.—							
Soda Maker, ...	1	1	1	...	...	3,240	3,240
Soap Maker, ...	1	3	2	...	...	2,934	4,401
Waterproof Manufacturer,	1	1	3	4	...	20,704	2,957·7
India-rubber Worker, ...	1	1	1	...	...	10,462	10,462
X. Skins, Leather, Hair, & Feathers—							
1. Skins and Leather—							
Furriers, ...	2	3	3	8	...	2,541·3	693
Hat-box Maker, ...	1	2	1	...	2	1,732	1,154·6
Portmanteau and Bag Makers, ...	3	3	33	14	4	11,387·6	669·8
2. Saddlery and Harness—							
Whip Maker, ...	1	1	1	1	...	1,366	683
Saddlers, ...	3	5	10	1	...	3,730	1,695·4
3. Hair and Feathers—							
Brush Makers, ...	4	5	19	5	5	6,380·4	1,100
XI. Paper, Prints, Books, and Stationery—							
1. Paper and Stationery—							
Paper Merchants, ...	3	14	173	14	...	7,287·1	545·5
Paper-bag Makers, ...	2	2	1	19	12	12,774·5	798·4
2. Prints and Books—							
Ticket Writer, ...	1	1	2	1	...	2,786	928·6
Printer and Stationer, ...	1	1	3	3	...	12,911	2,151·8
Pattern-book Makers, ...	2	3	5	8	6	11,314·3	1,786·4
Lithographer, ...	1	1	1	1	1	1,430	476·6
XII. Textile Fabrics—							
1. Cotton and Flax—							
Weavers, ...	2	2	4	1	1	18,736	6,245·3
2. Wool and Worsted—							
Shawl and Scarf Maker, ...	1	1	...	4	3	2,480	354·2
3. Hemp and other Fibrous Materials—							
Sack Repairers, ...	3	3	2	3	1	10,450·6	5,225·3
Sailmaker, ...	1	1	8	...	2	80,000	8,000
4. Mixed and Unspecified Materials—							
Towel Hemmer, ...	1	2	...	3	4	3,150	900
5. Bleaching, Printing, Dyeing, &c.—							
Calenderers, ...	4	4	27	54	23	41,398·2	1,630·7
6. Dealers—							
Drapers, ...	4	4	...	7	1	1,387	693·5

WORKSHOPS MEASURED AND REGISTERED DURING 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space for each Person.
. Dress—							
Accordion Pleating, ...	1	1	...	3	...	4,558	1,519·3
Barbers, ...	4	5	8	1	3	1,897·8	790·7
Blouse Maker, ...	1	1	...	1	2	1,008	336
Boot and Shoe Makers, ...	84	89	154	1	11	2,052·8	1,100·6
Dressmakers, ...	87	90	3	330	83	2,394·5	518·7
Hat and Cap Manufacturers,	7	8	21	20	2	3,516	654·1
Highland Dress Accoutrement Maker, ...	1	1	2	1	1	2,426	606·5
Ladies' Belt Maker, ...	1	1	4	6	5	19,841	1,322·7
Mantle and Costume Makers, ...	11	19	25	95	13	4,887·5	698·2
Milliners, ...	25	28	...	59	30	2,038·5	641·3
Repairing Old Clothes, ...	1	1	...	1	...	1,174	1,174
Shirt Maker, ...	1	1	...	3	...	1,472	490·6
Stay Maker, ...	1	1	...	5	...	1,288	257·6
Tailors and Clothiers, ...	153	206	495	287	68	2,688·4	651·5
Umbrella Maker, ...	1	2	1	1	...	1,233·5	1,233·5
Underclothing Manufacturers, ...	16	19	2	82	7	3,057·3	638·2
Wig Makers, ...	2	2	2	4	11	4,944	581·6
Food, Tobacco, Drink, and Lodging—							
1. Food—							
Tea Blenders, ...	4	6	10	5	5	3,561·3	1,068·4
Spice Maker, ...	1	1	2	2	...	2,056	514
Preserve Maker, ...	1	1	3	7	...	33,320	3,332
Potted-meat Maker, ...	1	1	1	1	...	1,316	658
Onion Bunchers, ...	2	2	11	...	1	6,180·5	1,030
Ham Curer, ...	1	1	2	...	...	21,209	10,604·5
Confectioners, ...	5	5	8	13	1	7,044·8	1,601
2. Dealing with Spiritous Drinks—							
Bottlers, ...	3	4	4	10	3	12,591·2	2,962·6
. Other General and Undefined Workers and Dealers—							
1. Sundry Specified Industries—							
Firelight Manufacturer, ...	1	3	32	...	2	12,071·6	1,065·1
Jet Manufacturer, ...	1	1	1	...	...	2,584	2,584
Pipe Makers, ...	2	3	11	8	..	5,086	803
Rag and Waste Sorters, ...	9	13	7	51	...	11,046·7	2,476

TABLE XLVIII.—RESTAURANTS MEASURED AND REGISTERED DURING 1906.

Districts.	Number of Restaurants.	Total Number of Rooms.	Total Number of Men.	Total Number of Women.	Total Young Persons, 14 to 18 Years.	Average Cubic Feet of Space in each Room.	Average Cubic Feet of Space for each Person.
ral, ...	18	18	4	49	...	3,158·5	1,072·7
ern, ...	16	19	25	20	...	1,789	755·3
tern, ...	8	8	10	14	1	2,752	880·6
hern, ...	1	1	...	1	1	460	230
hern, ...	3	3	...	6	...	2,314·3	1,157·1
h-West, ...	...	...	...	...	...	...	...
ing Park, ...	...	...	...	...	...	...	...

TABLE XLIX.

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
I. Professional Occupations and their Subordinate services—				
1. Medical—				
Artificial Teeth Makers, ...	22	51	1	9
2. Art, Music, Drama, &c.—				
China Painting, ...	1	1	6	2
Designer, ...	1	2	1	4
Fine Art and Fancy Goods Dealers, ...	4	10	28	10
Flag Makers, ...	2	2	10	...
Photographers, ...	44	56	113	41
Engravers, ...	28	73	3	44
Sculptors, ...	6	19	...	6
II. Domestic Offices or Services—				
Laundries, ...	220	18	911	195
III. Conveyance of Men, Goods, and Messages—				
Mail-cart Makers, ...	3	11	3	4
Rubber Tyre Manufacturers, ...	2	6	...	...
IV. Fishing				
Fish Curers, ...	14	58	52	11
Fish Box and Barrel Maker, ...	1	5	...	...
V. In and about and dealing with the Products of Mines and Quarries—				
1. Mines—				
Asbestos Manufacturer, ...	1	...	6	...
2. Quarries—				
Marble Cutters, ...	8	48	...	...
Mill-stone Builder, ...	1	6	...	...
VI. Metals, Machines, Implements, and Conveyances—				
1. Manufacture of Mixed or Unspecified Metals—				
Metal Merchants and Refiners, ...	5	23	...	...
Spelter Manufacturer, ...	1	5	...	..
Tinsmiths and Coppersmiths, ...	44	177	9	60
2. Engineering and Machine Making—				
Blacksmiths, ...	60	186	...	8
Brassfinishers, ...	9	21	1	5
Electrical Engineers, ...	21	96	4	20
Farriers, ...	25	89	...	3
Heating and Ventilating Engineers, ...	8	48	...	5
Horse-shoe Pad Maker, ...	1	6	...	4
Indicator Makers, ...	2	19	...	2
Machine Makers and Repairers, ...	12	25	1	7
Machinists, ...	5	6	39	12
Pattern Makers, ...	3	16	...	5
Sheet-metal Workers, ...	5	17	...	11

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
VI. Metals, Machines, &c.—*Continued*—				
3. Tools—				
Saw Makers, ...	7	13	...	6
Cutlers, ...	4	6	...	...
File Makers, ...	4	19	1	2
4. Types, Dies, Medals, Coins—				
Stereotypers, ...	2	13	...	2
Die Sinkers, ...	2	12	..	...
5. Arms—				
Gunsmiths, ...	3	8	...	1
6. Miscellaneous Metal Trades—				
Bakers' Utensil Maker, ...	1	4	...	...
Chain Maker, ...	1	11	...	...
Electro-platers and Enamellers, ...	3	6	3	..
Fireproof-door Maker, ...	1	8	...	...
Iron Clasp Makers, ...	2	3	4	3
Lamp Maker, ...	1	4	...	..
Lead Worker and Embosser, ...	1	18	3	2
Locksmiths, ...	4	7	...	2
Nail Maker, ...	1	4	...	...
Weighing Machine and Scale Makers, ...	5	18	...	4
Wire Workers, ...	11	48	1	14
7. Ships and Boats—				
Boatbuilders, ...	3	7	. .	3
Ship-model Maker, ...	1	6	..	2
8. Vehicles—				
Cartwrights, ...	10	79		8
Carriage Builders, ...	13	185		28
Cycle and Motor Makers and Repairers, ...	47	108	4	15
9. Dealers—				
Ironmongers and Mill Furnishers, ...	7	23	...	3
VII. Precious Metals, Jewels, Watches, Instruments, and Games—				
1. Precious Metals and Jewellery—				
Gold Beaters, ...	2	17	1	..
Jewel-case Makers, ...	2	16	8	7
Jewellers, Goldsmiths, Watch and Clock Makers, ...	150	399	33	93
2. Watches and Scientific Instruments—				
Nautical and Scientific Instrument Makers,	3	10	...	3
Opticians, ...	9	19	1	5
Surgical Instrument Makers, ...	3	9	2	3
Artificial Limb Makers, ...	3	10	3	...

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
VII. Precious Metals, Jewels, &c.—*Continued*—				
3. Musical Instruments—				
Musical Instrument Makers, ...	21	39	18	12
4. Apparatus for Sports and Games—				
Fishing-tackle Makers, ...	4	1	89	16
Fish-bass Makers, ...	2	...	10	4
Golf-club Makers, ...	7	24	1	4
VIII. Building and Works of Construction—				
1. Housebuilding, &c.—				
Joiners and Wrights, ...	186	654	...	83
Lathsplitters, ...	3	22	...	5
Painters and Decorators, ...	31	130	7	40
Plasterers and Modellers, ...	5	6	...	8
Plumbers and Gasfitters, ...	188	660	11	171
Slaters, ...	9	71	...	4
Stair Railers, ...	4	26	...	4
Tile Layers, ...	2	4	...	1
Artists and Decorators, ...	3	6	...	3
Concrete Step Maker, ...	1	5	...	...
Cistern Makers, ...	2	7	...	...
Glaziers, ...	26	118	2	22
Window Blind Makers, ...	4	7	5	1
IX. Wood, Furniture, Fittings, and Decorations—				
1. Furniture, Fittings, and Decorations—				
Picture-frame Makers, ...	33	91	9	13
Polish Manufacturers, ...	2	3	1	...
Shop Fitters and Show-case Makers, ...	8	44	4	4
Stucco Ornament Makers, ...	3	11	1	3
Modellers, ...	5	24	...	2
Upholsterers, ...	51	168	145	56
Upholstery Trimming Makers, ...	5	9	56	19
Bamboo Furniture Makers, ...	2	7	...	...
Basket Makers, ...	8	20	...	3
Bedding Manufacturers, ...	15	48	45	10
Bellows Makers, ...	2	8	...	...
Billiard Table Makers, ...	5	26	29	3
Cabinetmakers and French Polishers, ...	189	656	270	105
Carvers and Gilders, ...	31	200	6	12
Coffin Mounting and Shroud Making, ...	14	41	6	6
Fancy-box Makers, ...	33	118	506	239
Hassock Maker, ...	1	2	1	3

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
IX. Wood, Furniture, &c.—*Continued*—				
2. Wood and Bark—				
Coopers, ...	18	85	...	2
Cork Cutters, ...	10	47	19	20
Packing-case Makers, ...	8	52	..	10
Portmanteau Makers, ...	6	38	7	9
Straw-board Lining Maker, ...	1	5	6	8
Trunk Makers, ...	2	21	1	4
X. Brick, Cement, Pottery, and Glass—				
Glass and Emery Paper Makers, ...	2	6	1	7
Glass Stainers and Embossers, ...	27	116	18	44
Pavement-light Maker, ...	1	10	...	...
XI. Chemicals, Oil, Grease, Soap, Resin, &c.—				
1. Colouring Matter—				
Blacking Manufacturer, ...	1	1	3	...
Ink Manufacturers, ...	2	5	6	6
2. Salt, Drugs, and other Chemicals and Compounds—				
Chemical Manufacturers, ...	2	6	1	...
Fire Extinguisher Manufacturer, ...	1	6	...	3
Manufacturing Chemists, ...	10	62	36	26
3. Oil, Grease, Soap, Resin, &c.—				
Oil, Paint, and Varnish Manufacturers, ...	7	17	5	4
Drysalters, ...	2	1	7	4
Soap and Soda Manufacturers, ...	3	4	...	...
India Rubber Stamp Makers, ...	3	5	...	1
Waterproof Manufacturers, ...	10	35	54	7
XII. Skins, Leather, Hair, and Feathers—				
1. Skins and Leather—				
Curriers and Tanners, ...	4	83	1	2
Furriers, ...	14	30	67	11
Hat-box Makers, ...	2	1	3	3
2. Saddlery and Harness—				
Belt, Brace, and Necklet Makers, ...	2	2	25	13
Leather Belt Makers, ...	6	33	7	5
Saddlers, ...	46	199	16	28
Whip Makers, ...	2	3	2	...
3. Hair and Feathers				
Brush Makers, ...	18	143	42	28
Feather Dressers, ...	3	...	7	1

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
XIII. Paper, Prints, Books, and Stationery—				
1. Paper and Stationery—				
Beeswax Refiner and Paper Maker, ...	1	2	18	...
Card Cutters, ...	4	14	4	10
Envelope Maker, ...	1	4	29	16
Paper-bag Makers, ...	12	14	130	57
2. Prints and Books—				
Lithographers, ...	15	38	17	20
Pattern-book Makers, ...	11	32	78	56
Printers, Bookbinders, and Stationers, ...	64	397	526	280
Ticket Writers, ...	5	19	2	6
XIV. Textile Fabrics—				
1. Cotton and Flax—				
Warpers and Winders, ...	5	28	36	2
Weavers, ...	16	47	22	8
2. Wool and Worsted—				
Pattern Weaving and Darning, ...	9	62	28	11
Shawl and Scarf Manufacturers, ...	5	3	49	13
3. Hemp and other Fibrous Materials—				
Rope Makers, ...	2	8	...	...
Sack Makers and Repairers, ...	17	22	101	4
Sail Makers, ...	2	25	...	4
4. Mixed or Unspecified Materials—				
Embroiderers, ...	8	26	47	24
Fringers, ...	5	2	36	11
Lace Manufacturers, ...	2	1	33	9
Tape-line Maker, ...	1	2	3	1
Thread Manufacturer, ...	1	6	79	...
Trimming and Curtain Frilling, ...	1	1	8	3
5. Bleaching, Printing, Dyeing, &c.—				
Calenderers, ...	12	99	116	34
Dyer and Cleaner, ...	1	3	...	1
Packers, ...	2	1	5	5
6. Dealers—				
Drapers, ...	26	16	70	27
XV. Dress—				
Blouse Makers, ...	4	1	38	15
Boot, Shoe, and Slipper Makers, ...	485	1,205	96	80
Button and Stud Makers, ...	3	2	6	2
Children's Outfitters, ...	3	...	30	10
Clog Makers, ...	4	13	...	...
Dressmakers, ...	559	59	2,978	744

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31st DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
XV. Dress—*Continued*—				
Hairdressers and Wig Makers, ...	15	36	7	22
Hat and Cap Manufacturers, ...	25	45	237	131
Handkerchief Hemmers, ...	7	13	279	89
Hosiery Manufacturers, ...	16	8	92	39
Last and Boot-tree Makers, ...	2	5	...	1
Mantle and Costume Makers, ...	57	152	1,084	218
Milliners, ...	182	3	589	203
Napery Hemming, ...	2	...	8	1
Pinafore Makers, ...	3	4	139	70
Shirt Makers, ...	34	97	1,013	79
Stay Makers, ...	11	4	83	22
Tailors and Clothiers, ...	660	3,053	1,826	544
Tie Makers, ...	2	1	8	7
Umbrella Makers, ...	30	86	246	74
Underclothing Manufacturers, ...	69	16	694	148
XVI. Food, Tobacco, Drink, and Lodging—				
1. Food—				
Aerated Water Manufacturers, ...	2	22	4	1
Coffee Essence Makers, ...	2	21	33	48
Confectioners and Preserve Makers, ...	22	40	65	125
Ham Curers, ...	9	51	1	1
Onion Bunchers, ...	2	11	...	1
Pickle and Sauce Makers, ...	4	5	57	...
Poulterers, ...	5	27	...	4
Preserved Meat Makers, ...	10	12	10	3
Sausage-skin and Spice Makers, ...	15	58	64	35
Tea Blenders and Packers, ...	13	24	21	15
2. Tobacco—				
Tobacco and Cigarette Makers, ...	13	50	141	85
3. Dealing with Spirituous Drinks—				
Bottling and Labelling, ...	23	86	100	40
Distiller, ...	1	10	...	...
4. Board, Lodging, &c.—				
Restaurants, ...	299	246	787	74
XVII. Gas, Water, and Electricity Supply—				
Meter Fitting and Repairing, ...	1	430	...	...
XVIII. Other General and Undefined Workers and Dealers—				
1. About Animals—				
Birds'-cage Maker, ...	1	3	1	...
Birds' Seed Merchants, ...	3	6	2	3

NUMBER OF WORKSHOPS AND EMPLOYEES ON THE REGISTERS, AS AT 31ST DECEMBER, 1906.—*Continued.*

Nature of Workshop.	Number of Workshops.	Total Number of Men.	Total Number of Women.	Total Young Persons 14 to 18 Years.
XVIII. Other General Workers, &c.—*Continued*—				
2. Sundry Specified Industries—				
Tobacco-pipe Makers, ...	10	57	21	7
Firelight Manufacturers, ...	6	58	9	3
Ivory Turners, ...	2	10	...	3
Japanners, ...	6	14	10	1
Rag and Waste Paper Merchants, ...	62	235	424	38
Taxidermists, ...	2	3	...	1
3. Makers and Dealers (general and undefined)—				
Manufacturers and Warehousemen, ...	8	97	328	46
Smaller Trades, ...	24	45	23	17
Totals, ...	4,929	13,758	15,799	5,428

DISEASES OF OCCUPATION.

Most of the work hitherto done in connection with the diseases of industry has been based on figures derived from national sources, and this for obvious reasons. Even in a large population, the number of persons employed in particular industries dwindles to proportions which tend to produce erroneous results when reduced to rates. Notwithstanding this difficulty, it is desirable to obtain some impression of the effect of local industrial conditions on the life of the worker, and on being requested by the recent Departmental Committee on Industrial Diseases to submit some evidence on this question, occasion was taken to recast and expand some details which I had collected on a former occasion in order to ascertain how far industrial conditions affected the general death-rates of the City.

In order to do this, I extracted from the Census Report the number of males employed at ages 25-65, and to establish the general accuracy of the numbers living and returned under the several occupations, I made the following comparison with the numbers living at corresponding ages according to my own Report in the 1901 Census for this City:—

Glasgow, 1901.—Males, 25-65. Numbers living according to—

(1) Medical Officer's Census Report; and

(2) Employed or otherwise at corresponding ages from Registrar-General's Report.

Age.	Medical Officer's Report.	Census Enumeration.
25 to 35	65,768	65,822
– 45	46,605	46,471
– 55	32,356	32,312
– 65	18,351	18,414
	163,080	163,019

Among this population there occurred during the years 1900-1-2, 8,681 deaths, distributed as in the following Table:—

GLASGOW OCCUPATIONAL DEATH-RATES. ALL MALES. 25 – 65.

	Ages.				Totals.
	25 –	35 –	45 –	55 – 65	
All Males, Years of Life, ...	197.466	139,413	96,936	55,242	489,057
All Males, Deaths, ...	1.572	1,992	2,511	2,606	8,681
Death-rate per 1,000, ...	7·8	14·3	25·9	47·1	17·7
Glasgow Life Table, 1892-1900,...	8·2	14·2	24·8	45·5	...
,, 1881-1890,...	9·3	15·2	26·5	45·8	...
Industrial Districts (England), 1890-2, ...	8·7	15·9	27·8	50·2	...

The death-rates here shown for "All males" at ages 25, 35, 45, and 55-65 read 7·8, 14·3, 25·9, and 47·1 respectively, while the death-rate for the whole period 25 to 65 is 17·7.

In order to compare the rates thus ascertained with those for corresponding age-periods, but obtained otherwise, I have added three horizontal lines at the foot of the Table. The figures in these lines are—

(1) Death-rates of occupied males in industrial districts, 1890-92.
(2) Life table for Glasgow, 1881-90.
(3) Corresponding rates for 1892-1900.

Bearing in mind the different periods, the rates given show a fair correspondence with those calculated on the observed occupational deaths in Glasgow, and we shall not err much in assuming that any occupation showing a markedly higher death-rate at any of the four age-periods than is there shown is associated with some influence prejudicial to the health of the workers therein. From the Table thus prepared I select a few occupations for comparison.

GLASGOW, 1900-1-2.

DEATHS and Death-rates from All Causes in certain Occupations, together with Comparative Mortality Figure for each Group.

Group No.	Occupation.	Ages.				C.M.F. All Males = 1,000.
		25	35	45	55-65	
Death-rate, all Males, ...		8·0	14·3	25·9	47·1	1,000
IX.	Mines and Quarries—					
	Years of Life, ...	3,114	2,274	1,611	828	1,148
	Deaths, ...	32	38	47	42	
	Death-rate per 1,000, ...	**10·2**	**16·7**	**29·1**	**50·7**	
X.	Metal Workers—					
	Years of Life, ...	42,285	30,564	20,667	10,458	743
	Deaths, ...	245	324	392	382	
	Death-rate per 1,000, ...	**5·7**	**10·6**	**18·9**	**36·5**	
XIV.	Brick, Cement Workers, &c.—					
	Years of Life, ...	1,962	1,569	1,164	570	1,332
	Deaths, ...	25	28	51	24	
	Death-rate per 1,000, ...	**12·7**	**17·8**	**43·8**	**42·1**	
XIX.	Textiles—					
	Years of Life, ...	8,463	6,420	4,905	2,838	1,197
	Deaths, ...	76	106	161	174	
	Death-rate per 1,000, ...	**8·9**	**14·9**	**32·8**	**61·3**	
XXII.	General and Undefined Workers, and all Labourers—					
	Years of Life, ...	24,306	19,416	13,422	7,362	2,032
	Deaths, ...	425	539	698	696	
	Death-rate per 1,000, ...	**17·4**	**27·7**	**52**	**95·9**	

The comparative mortality figure here has been constructed by the usual method. In each of the groups given, save metal-workers, the death-rates for given periods—and, in consequence, the comparative mortality figures—are all above the rates for "All males" at corresponding ages, but the rates given for metal-workers are low enough to suggest that some deaths belonging to this group have, because of an inaccurate statement of the trade, been omitted. In addition to these, one unforeseen difficulty presents itself. The local classification of deaths contained no information by which the several classes of labourers might be separated, and, in consequence, what is here called Group XXII. includes all labourers, irrespective of whether they were dock, railway, or other, with the result that the comparative mortality of this group is more than twice that of "All males."

Even allowing for both contingencies, I am disposed to think that the rates of mortality of the metal-workers' group would not be raised above that of "All males."

Inquiry regarding the Prevalence of Phthisis and other Respiratory Diseases.—In Table C., which follows, the deaths from phthisis among these occupations are compared with the deaths from the same disease affecting "All males" at these ages. The results again point to a lower prevalence of phthisis among metal workers than among miners, brick and cement workers, textile workers, general and undefined workers, and all labourers.

DEATHS AND DEATH-RATE FROM PHTHISIS FOR CORRESPONDING GROUPS.

Group No.	Occupation.	Ages.			
		25 –	35 –	45 –	55 – 65
All Males—Death-rate, Phthisis, ...		2·6	3·4	3·8	2·6
IX.	Mines and Quarries—				
	Years of Life, ...	3,114	2,274	1,611	828
	Deaths, ...	7	9	5	2
	Death-rate per 1,000, ...	**2·2**	**3·9**	**3·1**	**2·2**
X.	Metals, Machines, &c.—				
	Years of Life, ...	42,285	30,564	20,667	10,458
	Deaths, ...	68	63	38	25
	Death-rate per 1,000, ...	**1·6**	**2·05**	**1·8**	**2·3**
XIV.	Brick, Cement, &c.—				
	Years of Life, ...	1,962	1,569	1,164	570
	Deaths, ...	7	8	19	2
	Death-rate per 1,000, ...	**3·5**	**5·09**	**16·3**	**3·5**
XIX.	Textiles—				
	Years of Life, ...	8,463	6,420	4,905	2,838
	Deaths, ...	31	37	29	17
	Death-rate per 1,000, ...	**3·6**	**5·7**	**5·9**	**5·9**
XXII.	General and Undefined Workers, and all Labourers—				
	Years of Life, ...	24,306	19,416	13,422	736·2
	Deaths, ...	159	137	116	41
	Death-rate per 1,000, ...	**6·5**	**7·1**	**8·6**	**5·5**

BRONCHITIS, PNEUMONIA, AND PLEURISY, AND OTHER RESPIRATORY DISEASES (EXCLUDING PHTHISIS).—DEATHS and DEATH-RATE from BRONCHITIS, PNEUMONIA, PLEURISY, and other RESPIRATORY DISEASES (excluding PHTHISIS) for corresponding groups, the death-rate being calculated on the number of persons living and working at such age at the specified occupations.

Group No.	Occupation.	Ages.			
		25 –	35 –	45 –	55 – 65
All Males—Death-rate per 1,000, ...		1·5	3·6	7·5	14·5
IX.	Mines and Quarries—				
	Years of Life, ...	3,114	2,274	1,611	828
	Deaths from Respiratory Diseases,	6	8	22	19
	Death-rate per 1,000, ...	**1·926**	**3·518**	**13·656**	**22·946**
X.	Metals, Machines, &c.—				
	Years of Life, ...	42,285	30,564	20,667	10,458
	Deaths from Respiratory Diseases,	46	84	126	115
	Death-rate per 1,000, ...	**1·087**	**2·748**	**6·096**	**10·996**
XIV.	Brick, Cement, &c.—				
	Years of Life, ...	1,962	1,569	1,164	570
	Deaths from Respiratory Diseases,	7	11	15	11
	Death-rate per 1,000, ...	**3·565**	**7·010**	**12·886**	**19·298**
XIX.	Textiles—				
	Years of Life, ...	8,463	6,420	4,905	2,838
	Deaths from Respiratory Diseases,	14	21	40	51
	Death-rate per 1,000, ...	**1·654**	**3·271**	**8·154**	**17·970**
XXII.	General and Undefined Workers and all Labourers—				
	Years of Life, ...	24,306	19,416	13,422	7,362
	Deaths from Respiratory Diseases,	91	153	233	254
	Death-rate per 1,000, ...	**3·743**	**7·880**	**17·359**	**34·501**

BAKEHOUSES.

I.—UNDERGROUND BAKEHOUSES.

At the close of the year there remained on the Register 80 underground bakehouses, 15 of which, after having certain alterations carried out in accordance with the requirements of Section 101 of the Act, were certified. These, together with 29 reported on in 1904 and 32 in 1905, make a total of 76 certified up till the close of 1906.

Of the 82 on the register at the close of the year (including 1 in Kinning Park) 2 were closed. The total number closed since the passing of the Act is 56.

During the year 215 visits of inspection were made, and from 30 of them 31 samples of air were taken for analysis.

The details of work done are shown for each ward in the following Table:—

TABLE A.

WARDS.	Closed previous to 1906.	Total on Register at 1st January, 1906.	Closed during 1906.	Total on Register at 31st Dec., 1906.	Certified during 1906.	Certified Formerly.	Inspections.	Air Samples taken.	No. from which Air Samples taken.
1. Dalmarnock, ...	...	1	...	1	...	1	2	...	...
2. Calton, ...	1	3	...	3	...	2	2	...	...
3. Mile-end, ...	...	1	...	1	...	...	1	...	...
4. Whitevale, ...	1	1	...	1	1	1	2	...	...
5. Dennistoun, ...	1	3	...	3	1	2	5	1	1
6. Springburn. ...	1	...	...	...	...	1	...	...	...
7. Cowlairs, ...	...	3	1	2	2	...	14	...	...
8. Townhead, ...	3	4	...	4	1	4	23	3	2
9. Blackfriars, ...	7	3	...	3	...	8	6	3	3
10. Exchange, ...	3	9	...	9	2	5	21	4	4
11. Blythswood, ...	2	5	...	5	...	3	14	3	3
12. Broomielaw. ...	3	5	...	5	...	4	10	3	3
13. Anderston, ...	2	1	...	1	1	2	5	...	...
14. Sandyford, ...	3	9	...	9	1	3	24	2	2
15. Park, ...	...	4	...	4	...	2	8	3	3
16. Cowcaddens, ...	8	6	...	6	1	5	13	2	2
17. Woodside. ...	3	2	...	2	1	1	3	1	1
18. Hutchesontown, ...	1	3	...	3	...	2	3	2	2
19. Gorbals, ...	10	4	...	4	1	9	9	...	...
20. Kingston, ...	1	2	...	2	...	3	3	...	...
21. Govanhill, ...	3	4	...	4	...	1	2	...	...
22. Langside, ...	...	1	...	1	...	...	2	...	...
23. Pollokshields, ...	...	4	...	4	3	1	36	4	4
24. Kelvinside, ...	...	2	1	1	...	...	5	...	...
25. Maryhill, ...	1	1	...	1	...	1	1	...	...
26. Kinning Park, ...	...	1	...	1	...	...	1	...	...
	54	82	2	80	15	61	215	31	30

Condition of Air in Altered Premises certified during 1906.

In 20 samples taken from the 15 underground bakehouses certified during the year the proportion of carbonic acid gas in parts per 10,000 of air is shown in the following tabulation:—

TABLE B.

CONDITION OF AIR IN ALTERED PREMISES CERTIFED DURING 1906.

		CO_2 parts in 10,000 of Air.	Average.
1	average of 2	4·5	4·5
2	...	5·5	5·7
3	...	5·9	
4	...	6·0	6·4
5	average of 2	6·3	
6	...	6·9	
7	...	7·2	7·5
8	average of 2	7·3	
9	average of 2	7·4	
10	average of 2	7·5	
11	...	7·7	
12	average of 2	7·7	
13	...	8·1	8·5
14	...	8·9	
15	...	9·8	9·8
		Average,	7·0

Number of Bakehouses.	CO_2 parts per 10,000 of Air.
1	4 –
2	5 –
3	6 –
6	7 –
2	8 –
1	9 –
15	Average, 7

COST OF ALTERATIONS.

Through the courtesy of the occupiers or owners of premises of the 15 underground bakehouses which had undergone alterations and were certified during the year, I have obtained information regarding the actual costs incurred. The particulars of these, together with the method of ventilation adopted, the size of fan used, and the cubic capacity in feet of each bakehouse, are given in Table C.

The average cost per bakehouse is shown to be £62 6s. 8d., compared with £87 in 1905 and £118 in 1904. The amount expended in alterations for the past three years has been £3,424 in 1904, £3,810 in 1905, and £935 in 1906—a total expenditure of £8,169.

TABLE C.

PARTICULARS OF VENTILATION AND COST OF ALTERATIONS ON PREMISES CERTIFIED DURING 1906.

No.	Cubic Capacity.	Cost.	Method of Ventilation.		
			Extraction Fan.	Propulsion Fan.	Without Mechanical Aid.
1	6,345	£30	...	...	Windows, &c.
2	2,000	50	...	...	do.
3	5,893	75	12 ins.	...	...
4	4,417	75	...	15 ins.	...
5	17,743	25	...	...	Windows, &c.
6	4,000	30	...	...	do.
7	6,167	50	...	...	do.
8	10,269	60	...	...	do.
9	30,000	250	...	48 ins.	...
10	9,408	100	...	24 ins.	...
11	5,700	40	...	12 ins.	...
12	4,481	50	..	12 ins.	...
13	2,056	20	...	12 ins.	...
14	8,532	30	...	...	Windows, &c.
15	5,815	50	..	12 ins.	...

Ventilated by means of windows and ventilating tubes, ...	7
,, ,, propulsion fans, ...	7
,, ,, extraction fans, ...	1

Average Cost per Bakehouse, £62 6s. 8d.

During the year, 36 special visits to underground bakehouses were made for the purpose of taking samples of air. In 16 of these the ventilation was found to be defective owing to the fans not being in operation. The condition of the air as ascertained in 25 cases contrasted with their condition at the date of certification is shown in the following Table:—

Table D.—SURPRISE VISITS Paid to 25 Underground Bakehouses, Showing Use Made of Ventilating Fans and Results of Air Taken. The CO_2 present when the Premises were Certificated are Given for Comparison.

No.	Date.	Time.	Parts CO_2 in 10,000 of Air.		
			Fans not Working.	As Certified.	
	1906.				
1	21st April,	12.0	10·0	6·7	Fan stopped; being repaired.
2	11th June,	10.50	7·0	5·9	Fan going very slowly.
3	"	11.0	6·3	7·4	One Extraction Fan in Kitchen not going, two in operation.
4	"	11.15	5·5	6·8	Extraction fan out of repair for 4 days. Propulsion fan not going.
5	"	11.45	9·9	5·4	Fan stopped.
6	"	12.0	11·6	6·8	Do.
7	"	1.5	10·2	6·8	Fan not going for an hour owing to fermentation of dough.
8	"	1.30	8·1	7·5	Fan not going.
9	"	1.45	19·3	5·6	Fan stopped since 11 o'clock.
10	13th June,	11.10	17·5	4·9	Fan out of order for a month.
11	"	11.25	13·1	7·5	Do. week.
12	"	11.40	17·8	7·1	Do. an hour.
13	"	12.30	19·1	6·3	Fan not going.
14	"	12.40	16·4	6·6	Do.
15	"	1.0	18·2	6·8	Do.
16	15th June,	10.50	9·0	9·3	Fan out of repair for 3 weeks.
17	"	11.15	6·1	6·8	Fan not going.
18	"	11.45	5·3	7·0	Sponging in operation. Fan stopped for half an hour.
19	"	12.0	10·5	5·5	Fan not going.
20	"	12.15	7·0	6·0	Do.
21	23rd June,	10.10	13·3	7·9	Fan undergoing repair.
22	"	10.35	12·0	6·8	Fan not going.
23	"	10.45	17·0	9·3	Fan not going owing to cooling of hot plate.
24	"	11.40	14·8	7·4	Fans not going.
25	"	12.20	22·8	6·0	Do.

II.—OVERGROUND BAKEHOUSES.

In view of the results obtained in the underground bakehouses by methods of artificial ventilation, it becomes important to ascertain how these compare with the ordinary overground bakehouses. From 40 overground bakehouses samples of air were taken, and it will be observed that in 14 of these, or one-third, the air impurity exceeded the maximum permitted in underground bakehouses—namely, 10 parts CO_2 per 10,000 of air. The need for special supervision of their ventilation is, therefore, apparent. In the following Table the results of the examinations are given, graded from best to worst:—

TABLE A.

Number of Bakehouses.	CO_2 per 10,000 parts of Air.
2	5
10	6
4	7
3	8
7	9
3	10
2	11
3	12
5	13
1	14
40 Average,	10·0

The following Table gives the number of overground bakehouses in the several Wards, together with the number of inspections made and of samples of air taken for the purpose of examination:—

Table B.—OVERGROUND BAKEHOUSES.

	On Register, 1905.	Added.	Closed.	On Register, 1906.	Inspections.	Air Samples.	Bakehouses from which Air Samples were taken.
I. Dalmarnock, ...	9	14	...	23	7	...	...
II. Calton, ...	19	1	...	20	3	...	...
III. Mile-end, ...	13	16	...	29	1	1	1
IV. Whitevale, ...	12	17	...	29	8	...	...
V. Dennistoun, ...	6	7	...	13	3	...	...
VI. Springburn, ...	4	1	...	5	2	...	...
VII. Cowlairs, ...	2	...	1	1	2	...	...
VIII. Townhead, ...	10	...	...	10	3	3	3
IX. Blackfriars, ...	9	1	...	10	4	3	3
X. Exchange, ...	1	...	...	1	...	...	...
XI. Blythswood, ...	1	...	...	1	1	1	1
XII. Broomielaw, ...	1	...	1	...	...	...	...
XIII. Anderston, ...	3	...	1	2	...	...	...
XIV. Sandyford. ...	7	2	...	9	13	6	6
XV. Park, ...	4	...	...	4	7	4	4
XVI. Cowcaddens, ...	18	...	1	17	20	14	14
XVII. Woodside, ...	9	...	2	7	8	4	4
XVIII. Hutchesontown,	10	...	2	8	...	...	...
XIX. Gorbals, ...	13	...	1	12	4	...	...
XX. Kingston, ...	11	...	...	11	1	...	...
XXI. Govanhill, ...	5	...	...	5	...	...	...
XXII. Langside, ...	9	...	...	9	4	4	4
XXIII. Pollokshields, ...	1	...	...	1	...	...	...
XXIV. Kelvinside, ...	...	...	...	...	...	...	...
XXV. Maryhill, ...	6	...	...	6	2	...	...
XXVI. Kinning Park,...	...	6	...	6	6	...	...
Totals, ...	183	65	9	239	99	40	40

REGISTRATION OF HAIRDRESSERS.

The Committee on Health have had under consideration since the month of December, 1904, the question of supervising the customs of hairdressers in Glasgow. During 1905 several joint-meetings with representatives from the Hairdressers' Guild and the Glasgow and District Hairdressers' Association were held, and, as the result of these meetings, certain regulations for the conduct of hairdressers' establishments in the City were adopted. These, as finally approved of, are as follows:—

Regulations.

1. All shelves, fittings, and tables on which instruments are placed to be of glass, marble, slate, or other similar material.

2. Clean towels, &c., to be used for customers, and a fresh piece of paper or clean linen to be placed on the back of chair or head-rest.

3. No sponges, towelettes, or combs to be used unless disinfected.

4. Razors to be wiped on paper.

5. Clean hair brushes only must be used.

6. Shaving brushes, after use, to be placed in a disinfecting solution.

7. Liquid or powdered soap or shaving cream only to be used.

8. Cut hair falling on the floor to be swept up and removed, and floors to be kept cleanly.

9. No general alum, crystals, or blocks to be used as a styptic unless carefully washed; but liquid or powder, applied on towel or cotton wool or by spray, is to be preferred.

10. The most scrupulous cleanliness to be observed in all that pertains to the business.

Recommendations.

(*a*) Regular customers and subscribers should be strongly recommended to provide their own toilet articles, razors, brushes, &c., which would be exclusively reserved for the owner's use.

(*b*) All cut hair and paper to be burned.

(*c*) No customer apparently suffering from any skin or hair affection to be attended to, save at his own house or office, or in a private room.

(*d*) Charges should, if necessary, be remodelled, to enable hairdressers, &c., not only to comply with the letter, but the spirit of the above without loss.

(*e*) Machine or rotary brushes should be discouraged.

The Committee on Health agreed to recommend (1) that the foregoing regulations and recommendations be approved of; (2) that an official register be kept by the Medical Officer of Health of the names and addresses of all hairdressers in the city who comply with said regulations and recommendations and apply for registration; (3) that a certificate of registration be issued by the Corporation to each hairdresser so registered; (4) that before registration the Medical Officer of Health and the Sanitary Inspector be satisfied that the premises of the applicant for registration are in good sanitary condition; and (5) that after registration the officials referred to cause to be made periodical inspection of the premises of all hairdressers registered, to see that the said regulations and recommendations are being carried out.

During the year, 262 visits of inspection were made, and attention directed to the character of the provision made for head-rests, the disinfectant used for sponges, combs, and towelettes, the disposal of cut hair, and the water-closet accommodation.

The following Table gives the number of hairdressers in each Ward applying for registration, the number to whom certificates were granted, and the number of inspections made in the course of the year:—

Wards.	Number Applying for Registration.	Number Certified.	Number of Inspections of Premises.
I. Dalmarnock, ...	...	...	...
II. Calton, ...	3	3	11
III. Mile-end, ...	7	7	19
IV. Whitevale, ...	5	4	13
V. Dennistoun, ...	3	3	9
VI. Springburn, ...	3	3	9
VII. Cowlairs, ...	2	2	5
VIII. Townhead, ...	12	9	36
IX. Blackfriars, ...	6	5	12
X. Exchange, ...	9	9	23
XI. Blythswood, ...	1	1	8
XII. Broomielaw, ...	4	4	12
XIII. Anderston, ...	1	...	4
XIV. Sandyford, ...	1	1	2
XV. Park, ...	2	2	7
XVI. Cowcaddens, ...	6	6	25
XVII. Woodside, ...	4	4	10
XVIII. Hutchesontown, ...	5	5	17
XIX. Gorbals, ...	2	2	6
XX. Kingston, ...	...	...	...
XXI. Govanhill, ...	2	2	8
XXII. Langside, ...	2	2	4
XXIII. Pollokshields, ...	...	...	...
XXIV. Kelvinside, ...	2	2	6
XXV. Maryhill, ...	5	4	16
XXVI. Kinning Park, ...	...	...	...
Totals, ...	87	80	262

Three applicants did not carry out the requirements, and consequently were not granted a certificate; and 4 applied too late for inclusion.

A. K. CHALMERS.

Sanitary Chambers,
Glasgow, *30th August, 1907.*

APPENDIX.

Table I.—Glasgow.—POPULATION ; Births and Deaths ; Birth-rates and Death-rates per 1,000 ; also Deaths under 1 Year and Death-rates under 1 Year per 1,000 Born, from 1855 to 1906.

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year.	
						Number.	Rate per 1,000 born.
1855	356,355	13,242	10,655	37·2	29·9	2,600	196
1856	362,606	15,170	10.298	41·8	28·4	2,713	179
1857	369.318	15,706	11,375	42·5	30·8	2,851	182
1858	376,131	15,889	11.472	42·2	30·5	2,846	179
1859	382,756	15.947	10,832	41·6	28·3	2,448	154
1860	389,843	15,943	12,436	40·8	31·9	2,905	182
1861	397,673	16,537	10,936	41·6	27·5	2,544	154
1862	405,789	16,400	11,565	40·4	28·5	2,562	156
1863	413,944	16,986	13.329	41·0	32·2	2,774	163
1864	420,738	17,411	13,674	41·4	32·5	3,051	175
1865	428,123	17,956	13,914	41·9	32·5	3,097	173
1866	437.850	18,288	12,829	41·8	29·3	2,905	159
1867	446,028	18.347	12,578	41·1	28·2	2,895	158
1868	455,000	18,607	13,832	40·9	30·4	3,127	168
1869	464.332	18,495	15.648	39·8	33·7	3,411	184
1870	471,453	19,355	13.955	41·1	29·6	2,991	155
1871	491,900	18.867	15,790	38·4	32·1	3,608	191
1872	494,824	20.158	14,053	40·7	28·4	3,198	159
1873	494.847	19.487	14,499	39·4	29·3	3,255	167
1874	498,270	20,039	15,845	40·2	31·8	3,240	162
1875	499,480	20,825	15,384	41·7	30·8	3,388	163
1876	502,299	20,981	13,763	41·7	27·4	3,166	151
1877	504,487	21,124	13,823	41·9	27·4	3,106	147
1878	507,420	20.622	14,157	40·6	27·9	3,285	159
1879	508,048	19,751	12,498	38·8	24·6	2,504	127
1880	509,732	18,912	13,304	37·1	26·1	2,842	150
1881	512.034	19,106	12,916	37·3	25·2	2,745	144
1882	517,904	19,735	13.046	38·1	25·2	2,959	150
1883	523,154	19,911	14,577	38·1	27·9	3,091	155
1884	528,459	20,557	13,942	38·9	26·4	3.094	151
1885	533,817	19,861	13,492	37·2	25·3	3,100	156
1886	539,231	19,862	13,104	36·8	24·3	2,786	140
1887	544,700	19.328	12,135	35·5	22·3	2,676	138
1888	550,226	19,309	11,681	35·1	21·2	2,560	133
1889	555,808	19,503	13,139	35·1	23·6	3,008	154
1890	561,447	19,279	13,374	34·3	23·8	2,880	149
1891	567,143	19,857	14,324	35·0	25·3	2,946	148
1892	669,059*	22,815	15,218	34·1	22·7	3,168	139
1893	677,883	23,173	15,798	34·2	23·3	3,649	157
1894	686,820	22,644	13,673	34·0	19·9	2,937	130
1895	695,876	22.803	16.344	32·8	23·5	3,538	155
1896	705,052	24,029	14,385	34·1	20·4	3,278	136
1897	714,919	23,880	15,727	33·4	22·0	3,826	160
1898	724.349	24,262	15.333	33·5	21·2	3,792	156
1899	733,903	24,249	15,828	33·0	21·6	3,696	152
1900	743,969	24,362	16,393	32·7	22·0	3,778	153
1901	764,467	24,206	16,197	31·7	21·2	3,607	149
1902	775.601	24,722	15,532	31·9	20·0	3,206	129
1903	786,897	25,135	15,073	31·9	19·0	3,663	146
1904	798,357	24,754	15,414	31·0	19·3	3,606	146
1905	809,986	21,316	14,460	30·0	17·9	3,195	131
1906	835,625	24.560	14,889	29·4	17·8	3.223	131

* Extended City.

The figures in this Table are taken from the Registrar-General's Reports.

TABLE II. GLASGOW, 1906.—ESTIMATED POPULATION: BIRTHS; ILLEGITIMATE BIRTHS; and DEATHS at all AGES and at CERTAIN PERIODS of LIFE, and their PROPORTION to the POPULATION in each MUNICIPAL WARD.

MUNICIPAL WARDS.	ESTIMATED POPULATION.			BIRTHS.		ILLEGITIMATE BIRTHS.		DEATHS, ALL AGES.		DEATHS AT CERTAIN PERIODS OF LIFE						
	Without Institutions and Shipping.	Institutions and Shipping.	Total.	Number.	Rate per 1,000 Living.	Number.	Percentage of Total Births.	Number.	Rate per 1,000 Living.	Under 1 Year.	1—5 Years.	5—15 Years.	15—20 Years.	20—25 Years.	25—60 Years.	60 Years and above.
1. Dalmarnock,	49,987	575	50,562	1,917	38·3	94	4·9	960	19·2	272	193	61	17	31	247	139
2. Calton,	36,060	2,071	38,131	1,240	34·4	111	8·9	780	21·6	178	119	47	25	24	235	152
3. Mile-end,	44,669	447	45,116	1,781	39·9	96	5·4	883	19·8	258	156	65	22	21	227	134
4. Whitevale,	32,789	694	33,483	1,062	32·4	70	6·6	604	18·4	153	96	40	11	19	164	121
5. Dennistoun, ...	36,153	1,743	37,896	969	26·8	35	3·6	462	12·8	91	53	23	17	18	137	123
6. Springburn, ...	43,274	3,831	47,105	1,718	39·7	84	4·9	753	17·4	215	157	53	28	15	190	95
7. Cowlairs,	31,170	...	31,170	1,073	34·4	49	4·6	478	15·3	137	87	19	12	14	145	64
8. Townhead, ...	38,260	31	38,291	1,242	32·5	117	9·4	704	18·4	182	117	44	31	17	172	141
9. Blackfriars, ...	21,817	1,069	22,886	704	32·3	81	11·5	434	19·9	100	79	17	10	17	129	82
10. Exchange, ...	2,079	513	2,592	48	23·1	6	12·5	30	14·4	3	2	1	...	...	15	9
11. Blythswood, ...	3,279	363	3,642	30	9·1	6	20·0	27	8·2	6	...	1	...	...	10	10
12. Broomielaw, ...	7,556	1,535	9,091	218	28·9	37	17·0	160	21·2	31	26	10	3	4	49	37
13. Anderston, ...	28,788	1,579	30,367	956	33·2	57	6·0	533	18·5	134	85	39	11	16	158	90
14. Sandyford, ...	25,026	121	25,147	599	23·9	61	10·2	476	19·0	99	50	28	9	12	159	119
15. Park,	24,870	846	25,716	288	11·6	26	9·0	280	11·3	24	21	9	7	9	97	113
16. Cowcaddens,	36,458	1,188	37,646	1,213	33·3	145	12·0	797	21·9	204	137	43	26	21	239	127
17. Woodside, ...	43,454	149	43,603	1,307	30·1	90	6·9	723	16·6	161	114	39	12	9	217	171
18. Hutchesontown,	39,932	3	39,935	1,591	39·8	77	4·8	754	18·9	211	167	38	23	12	192	111
19. Gorbals, ...	35,876	780	36,656	1,080	30·1	97	9·0	569	15·9	131	94	26	19	26	156	117
20. Kingston,	34,401	697	35,098	979	28·5	68	7·0	599	17·4	142	102	28	14	11	171	131
21. Govanhill, ...	33,985	...	33,985	1,071	31·5	36	3·4	516	15·2	113	99	34	16	21	142	91
22. Langside, ...	38,801	573	39,374	850	21·9	33	3·9	362	9·3	40	34	14	6	9	114	145
23. Pollokshields, ...	17,765	...	17,765	151	8·5	6	4·0	151	8·5	9	4	5	2	4	54	73
24. Kelvinside, ...	21,788	689	22,477	250	11·5	8	3·2	158	7·3	11	5	2	4	4	47	85
25. Maryhill, ...	39,834	2,068	41,902	1,475	37·0	63	4·3	575	14·4	149	94	32	22	11	173	94
26. Kinning Park, ...	13,551	...	13,551	516	38·1	28	5·4	246	18·2	67	41	20	6	12	56	44
— Institutions and Harbour, ...	...	...	...	67	...	35	52·2	1,103	...	64	35	21	25	33	435	490
CITY. ...	781,622	21,565	803,187	24.395	30·4	1,616	6·6	14,117	17·6	3,185	2,167	759	378	390	4,130	3,108

TABLE III.—GLASGOW.—DEATHS at all AGES from DIFFERENT DISEASES in each MUNICIPAL WARD during 1906.

MUNICIPAL WARDS.	All Causes.	Smallpox.	Diphtheria and M. Croup.	Scarlet Fever.	Fevers.			Cerebro-Spinal Fever	Measles.	Whooping-cough.	Diarrhœa.	Septic Diseases.	Tuberculous Diseases.		Cancer, Malignant Diseases.	Diseases of Nervous System.	Diseases of Circulatory System.	Croup.	Pneumonia.	Diseases of Respiratory System.	Violence.	Premature Birth.	Uncertified.	All Other Causes.
					Typhus.	Enteric.	Undefined						Phthisis.	Other than Phthisis.										
1. Dalmarnock, ...	960	...	16	7	...	9	...	11	24	29	76	16	68	72	22	92	78	7	95	84	22	44	...	188
2. Calton, ...	780	...	3	2	...	5	...	13	19	16	51	4	70	40	25	72	70	...	62	98	30	29	3	168
3. Mile-end, ...	883	...	8	1	1	7	...	29	29	35	69	7	53	66	29	69	83	4	76	94	30	36	...	157
4. Whitevale, ...	604	...	1	7	...	3	...	12	15	24	45	12	51	51	21	49	48	2	48	59	15	12	...	129
5. Dennistoun, ...	462	...	...	3	...	5	...	5	8	7	21	4	34	35	28	44	51	2	36	37	16	19	...	107
6. Springburn, ...	753	...	14	2	...	5	...	16	26	8	42	9	80	78	28	46	53	1	78	74	27	38	2	126
7. Cowlairs, ...	478	...	6	...	...	2	...	3	26	6	31	4	33	46	17	33	36	3	36	50	12	20	1	113
8. Townhead, ...	704	...	3	4	...	4	...	9	18	12	40	4	50	47	34	48	66	1	65	78	29	31	5	156
9. Blackfriars, ...	434	...	1	2	...	1	...	8	7	12	25	6	34	26	13	23	35	2	59	51	29	11	4	85
10. Exchange, ...	30	...	...	...	...	...	...	...	1	...	1	...	3	...	4	4	8	...	2	1	...	...	...	6
11. Blythswood, ...	27	...	...	...	...	...	...	...	...	...	1	...	1	...	4	...	6	...	2	3	1	2	...	7
12. Broomielaw, ...	160	...	...	...	...	3	...	...	10	2	13	...	12	7	14	14	14	...	22	11	8	4	...	26
13. Anderston, ...	533	...	6	...	...	1	...	1	14	23	39	4	46	41	21	49	68	2	44	54	15	21	...	84
14. Sandyford, ...	476	...	10	1	...	2	...	2	9	6	22	5	35	37	25	42	61	2	36	40	7	15	...	119
15. Park, ...	280	...	3	1	...	5	...	1	5	4	4	...	17	9	13	36	46	1	20	23	6	6	...	80
16. Cowcaddens, ...	797	...	7	...	...	3	...	3	48	42	36	8	69	38	32	62	64	4	83	87	30	19	4	158
17. Woodside, ...	723	...	4	1	...	3	...	4	18	44	21	9	52	29	29	74	55	3	69	83	26	22	2	175
18. Hutchesontown,	754	...	14	2	...	8	...	5	36	34	34	8	57	55	23	58	50	5	124	68	19	21	...	133
19. Gorbals, ...	569	...	9	1	...	2	...	2	13	15	34	8	43	38	21	51	55	1	72	49	26	19	...	110
20. Kingston, ...	599	...	4	1	...	2	...	7	21	16	36	2	46	41	23	60	59	3	42	72	20	16	1	127
21. Govanhill, ...	516	...	11	4	...	1	...	3	12	24	20	8	39	38	25	61	36	3	54	36	14	10	...	117
22. Langside, ...	362	...	2	2	...	...	...	1	2	3	11	7	24	22	25	31	59	...	24	19	9	10	...	111
23. Pollokshields, ...	151	...	...	...	...	3	...	...	1	1	1	3	10	3	16	22	26	2	5	11	2	...	1	44
24. Kelvinside, ...	158	...	...	...	...	1	...	...	1	1	...	2	6	4	24	10	21	...	10	18	2	2	1	55
25. Maryhill, ...	575	...	9	8	1	2	...	5	14	23	36	9	51	37	24	44	40	1	68	44	20	30	...	109
26. Kinning Park,	246	...	4	...	...	1	...	...	2	12	14	1	21	24	8	24	21	1	18	31	9	7	...	48
— Institutions & Harbour,	1,103	...	1	1	...	4	...	3	16	1	26	5	210	28	38	128	178	...	81	97	34	14	6	232
CITY, ...	14,117	...	136	50	2	82	...	143	395	400	749	145	1,215	912	586	1,246	1,387	50	1,331	1,372	458	458	30	2,970

Table IV.—Glasgow.—DEATH-RATES per Million from Different Diseases in each Municipal Ward during 1906.

MUNICIPAL WARDS.	All Causes.	Smallpox.	Diphtheria and Membranous Croup.	Scarlet Fever.	Fevers.			Cerebro-Spinal Fever.	Measles.	Whooping-cough.	Diarrhœa.	Septic Diseases.	Tuberculous Diseases.		Cancer, Malignant Diseases.	Diseases of Nervous System.	Diseases of Circulatory System.	Croup.	Pneumonia.	Diseases of Respiratory System.	Violence.	Premature Birth.	Uncertified.	All Other Causes.
					Typhus.	Enteric.	Undefined.						Phthisis.	Other than Phthisis.										
1. Dalmarnock, ...	19,205	...	320	140	...	180	...	220	480	580	1,520	320	1,360	1,440	440	1,842	1,560	140	1,900	1,680	440	880	...	3,761
2. Calton, ...	21,631	...	83	55	...	139	...	361	527	444	1,414	111	1,941	1,109	693	1,997	1,941	...	1,719	2,718	832	804	83	4,659
3. Mile-end, ...	19,768	...	179	22	22	157	...	649	649	784	1,545	157	1,187	1,478	649	1,545	1,858	90	1,701	2,104	672	806	...	3,515
4. Whitevale, ...	18,421	...	30	213	...	91	...	366	457	732	1,372	366	1,555	1,555	640	1,494	1,464	61	1,464	1,799	457	366	...	3,934
5. Dennistoun, ...	12,779	...	...	83	...	138	...	138	221	194	581	111	940	968	774	1,217	1,411	55	996	1,023	443	526	...	2,960
6. Springburn, ...	17,401	...	324	46	...	116	...	370	601	185	971	208	1,849	1,802	647	1,063	1,225	23	1,802	1,710	624	878	46	2,912
7. Cowlairs, ...	15,335	...	192	...	...	64	...	96	834	192	995	128	1,059	1,476	545	1,059	1,155	96	1,155	1,604	385	642	32	3,625
8. Townhead, ...	18,400	...	78	105	...	105	...	235	470	313	1,045	105	1,307	1,228	889	1,255	1,725	26	1,699	2.039	758	810	131	4,077
9. Blackfriars, ...	19,893	...	46	92	...	46	...	367	321	550	1,146	275	1,558	1,192	596	1,054	1,604	92	2,704	2,338	1,329	504	183	3,896
10. Exchange, ...	14,430	...	...	...	...	...	...	...	481	...	481	...	1,443	...	1,924	1,924	3,848	...	962	481	...	...	...	2,886
11. Blythswood, ...	8,234	...	...	...	...	...	...	...	...	...	305	...	305	...	1,220	...	1,830	...	610	915	305	610	...	2,135
12. Broomielaw, ...	21,175	...	...	...	...	397	...	...	1,323	265	1,720	...	1,588	926	1,853	1,853	1,853	...	2,912	1,456	1,059	529	...	3,441
13. Anderston, ...	18,515	...	208	...	...	35	...	35	486	799	1,355	139	1,598	1,424	729	1,702	2,362	69	1,528	1,876	521	729	...	2,918
14. Sandyford, ...	19,020	...	400	40	...	80	...	80	360	240	879	200	1.399	1,478	999	1,678	2,437	80	1,439	1,598	280	599	...	4,755
15. Park, ...	11,259	...	121	40	...	201	..	40	201	161	161	...	684	362	523	1,448	1,850	40	804	925	241	241	...	3,217
16. Cowcaddens, ...	21,861	...	192	...	...	82	...	82	1,317	1,152	987	219	1,893	1,042	878	1,701	1,755	110	2,277	2,386	823	521	110	4,334
17. Woodside, ...	16,638	...	92	23	...	69	...	92	414	1,013	483	207	1,197	667	667	1,703	1,266	69	1,588	1,910	598	506	46	4,027
18. Hutchesontown,...	18,882	...	351	50	...	200	...	125	902	851	851	200	1,427	1,377	576	1,452	1,252	125	3,105	1,703	476	526	...	3,331
19. Gorbals, ...	15,860	...	251	28	...	56	...	56	362	418	948	223	1,199	1,059	585	1,422	1,533	28	2,007	1,366	725	530	...	3,066
20. Kingston, ...	17,412	...	116	29	...	58	...	203	610	465	1,046	58	1,337	1,192	669	1,744	1,715	87	1,221	2,093	581	465	29	3,692
21. Govanhill, ...	15,183	...	324	118	...	29	...	88	353	706	588	235	1,148	1,118	736	1,795	1,059	88	1,589	1,059	412	294	...	3,443
22. Langside, ...	9,330	...	52	52	...	...	...	26	52	77	283	180	619	567	644	799	1,521	...	619	490	232	258	...	2,861
23. Pollokshields, ...	8,500	...	...	...	...	169	...	...	56	56	56	169	563	169	901	1,239	1,464	113	281	619	113	...	56	2,477
24. Kelvinside, ...	7,252	...	...	...	...	46	...	...	46	46	...	92	275	184	1,102	459	964	...	459	826	92	92	46	2,019
25. Maryhill, ...	14,435	...	226	201	25	50	...	126	351	577	904	226	1,280	926	603	1,105	1,004	25	1,707	1,105	502	753	...	2,736
26. Kinning Park,	18,154	...	295	...	...	74	...	...	148	886	1,033	74	1,550	1,771	590	1,771	1,550	74	1,328	2,288	664	517	...	3,542
— Institutions, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CITY, ...	17,576	...	169	62	2	102	...	178	492	498	933	181	1,513	1,135	730	1,551	1,727	62	1,657	1.708	570	570	37	3.699

Table V.—Glasgow.—CASES of Infectious Disease Registered in each Municipal Ward, showing those Treated in Hospital, for the Year 1906.

MUNICIPAL WARDS.	INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.																		OTHER INFECTIOUS DISEASES.														ALL CAUSES.		TOTAL VISITATIONS.		TOTAL CASES.
	FEVERS.								Smallpox.		Scarlet Fever.		Cerebro-Spinal Fever.		Diphtheria and Membranous Croup.		Erysipelas.		Anthrax.		Beri-Beri.		Mumps.		Measles.		Whooping-cough.		Chickenpox.		Phthisis.						
	Typhus.		Enteric.		Continued and Undefined.		Puerperal.																														
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	For Infectious Diseases.	Cases found.	
1. Dalmarnock,	...	...	23	...	3	...	12	...	...	...	72	1	11	5	105	7	36	45	...	...	...	...	...	...	80	605	53	41	5	15	17	66	417	785	7,695	20	1,202
2. Calton, ...	...	...	17	1	...	...	6	...	...	...	34	4	11	8	27	5	37	50	...	...	...	..	...	...	58	307	29	28	8	3	12	75	239	481	6,260	29	720
3. Mile-end, ...	1	...	35	...	5	...	5	3	...	...	39	3	25	13	53	3	37	51	...	...	...	...	...	...	105	567	45	80	12	19	12	59	374	798	5,466	122	1,172
4. Whitevale, ...	...	...	24	2	1	...	4	...	...	...	66	3	7	7	22	4	28	48	1	...	...	...	...	...	67	363	27	28	...	7	18	46	265	508	4,332	45	773
5. Dennistoun, ...	...	...	5	1	...	...	7	...	...	...	60	26	2	2	24	8	2	30	...	.	...	...	...	...	28	424	3	46	...	1	6	44	137	582	9,636	57	719
6. Springburn, ...	2	...	28	2	...	...	3	1	...	...	75	3	11	9	102	14	18	36	...	...	...	...	...	...	35	606	5	27	3	19	11	78	293	795	10,030	69	1,088
7. Cowlairs, ...	1	...	10	...	...	...	3	1	...	...	75	8	3	2	66	5	15	28	...	...	...	...	...	...	19	768	12	52	1	22	5	39	210	925	7,761	41	1,135
8. Townhead, ...	...	...	14	...	...	...	4	...	...	...	40	4	7	8	42	7	5	21	...	...	...	...	...	...	59	430	16	37	5	16	4	58	196	581	6,354	48	777
9. Blackfriars, ...	...	...	5	1	...	...	...	...	1	...	24	...	5	4	23	2	20	30	...	...	...	...	...	...	25	69	35	21	6	16	11	39	155	182	4,025	1	337
10. Exchange, ...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2	...	4	3	...	...	...	...	...	...	6	15	...	1	1	3	...	2	14	25	285	1	39
11. Blythswood, ...	...	...	1	...	...	...	...	...	...	...	1	1	.	...	4	...	1	2	...	...	...	...	...	...	7	2	...	...	1	...	...	5	15	10	212	...	25
12. Broomielaw, ...	...	..	9	1	1	...	1	...	...	...	9	1	1	...	9	1	4	5	...	...	...	...	...	...	13	100	1	8	...	4	2	11	50	131	3,761	44	181
13. Anderston, ...	...	...	9	2	...	...	3	1	...	...	38	...	2	1	59	3	18	22	...	...	...	...	...	...	28	422	16	59	...	33	3	56	176	599	6,840	109	775
14. Sandyford, ...	...	...	16	...	...	...	3	1	...	...	15	3	...	2	51	6	9	23	...	...	...	...	...	...	25	127	11	15	1	13	4	41	135	231	5,053	47	366
15. Park, ...	...	...	7	3	1	...	...	...	...	...	23	10	1	...	20	18	6	17	...	.	...	...	...	...	14	114	2	10	1	1	1	16	76	189	1,647	36	265
16. Cowcaddens,	2	...	19	1	...	...	8	3	...	...	29	1	3	1	41	1	22	45	...	...	...	...	...	...	124	724	84	115	15	18	6	93	353	1,002	12,015	55	1,355
17. Woodside, . .	1	...	23	2	...	...	4	2	...	...	62	9	2	4	39	8	17	34	...	...	...	...	...	...	66	583	45	334	...	8	5	61	264	1,045	7,338	42	1,309
18. Hutchesontown,	3	...	23	1	1	...	10	1	...	...	89	...	6	1	80	3	29	56	...	...	...	...	...	...	98	579	67	82	6	9	7	55	419	787	9,515	50	1,206
19. Gorbals, ...	...	...	14	1	1	...	4	1	...	...	56	9	2	1	51	6	13	66	...	...	...	...	...	..	36	239	28	30	5	13	4	56	214	422	6,654	55	636
20. Kingston, ...	...	...	12	1	...	...	4	3	...	...	47	3	4	7	29	3	11	44	...	...	...	...	...	...	28	230	31	58	5	54	2	66	173	469	5,873	34	642
21. Govanhill, ...	...	...	6	...	...	...	2	1	...	...	90	9	6	1	84	7	11	42	...	...	...	...	...	...	38	704	29	52	2	6	5	42	273	864	6,564	201	1,137
22. Langside, ...	...	...	5	3	...	...	...	4	...	...	73	26	...	1	16	19	4	27	...	...	...	...	...	...	16	457	5	16	...	...	9	31	128	584	5,659	2	712
23. Pollokshields,	...	...	5	3	...	...	...	...	...	...	16	22	...	1	6	13	3	15	...	...	...	...	...	...	13	85	1	...	15	...	1	9	60	148	2,420	11	208
24. Kelvinside, ...	...	...	3	3	...	...	...	...	...	...	12	13	...	...	12	17	2	12	...	...	...	...	...	...	17	71	...	14	1	5	2	12	49	147	1,573	32	196
25. Maryhill, ...	...	...	11	1	1	...	9	2	...	...	117	8	6	2	56	9	10	41	...	...	...	...	...	...	27	622	17	270	...	83	11	52	265	1,090	9,290	257	1,355
26. Kinning Park,	...	...	2	...	...	...	1	...	...	...	8	...	...	...	18	3	5	12	...	...	...	...	...	...	8	24	10	32	...	4	2	25	54	100	6,600	21	154
— Institutions,	...	...	24	...	1	...	2	...	2	...	40	...	10	...	56	...	85	4	...	...	...	...	1	...	117	...	18	...	33	1	22	3	411	8	367	...	419
— Harbour, ...	...	...	9	...	1	...	...	...	...	...	3	...	...	...	1	...	3	1	...	...	9	...	1	...	8	...	...	...	2	...	...	2	37	3	1,703	...	40
CITY, ...	10	...	359	29	16	...	95	24	3	...	1214	168	125	80	1098	172	455	810	1	...	9	...	2	...	1,165	9,237	590	1,456	128	373	182	1,142	5,452	13,491	154,928	1,429	18,943

Table VI.—Glasgow.—CASES of Infectious Disease Registered, showing the Number Treated in Hospital for each Month of the Year 1906.

Months.	INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.																						OTHER INFECTIOUS DISEASES.														Total.	
	Fevers.										Smallpox.		Scarlet Fever.		Cerebro-Spinal Fever.		Diphtheria.		Membranous Croup.		Erysipelas.		Anthrax.		Beri-beri.		Mumps.		Measles.		Whooping-cough.		Chickenpox.		Phthisis.			
	Typhus.		Enteric.		Continued.		Puerperal.		Undefined.																													
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp	Home.	Hosp.	Home.	Hosp.	Home.	Hospital.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hospital.	Home.
Jan.,	1	...	18	2	...	..	9	1	1	...	...	...	66	15	...	...	82	17	3	1	43	76	...	...	...	...	...	...	311	2,284	18	84	9	40	16	74	577	2,594
Feb.,	3	...	24	1	...	...	9	1	1	...	...	...	80	16	...	...	91	16	5	...	31	63	...	...	...	...	...	...	148	1,786	21	57	20	31	9	103	442	2,074
March,	...	...	26	5	...	...	7	3	1	...	1	...	60	15	2	1	93	19	6	2	27	48	...	...	...	...	...	...	165	1,785	27	97	14	24	17	116	446	2,115
April,	3	...	17	1	...	...	13	2	...	...	2	...	70	10	...	...	86	14	3	...	28	65	...	...	2	...	...	...	157	1,109	40	181	19	17	15	109	455	1,508
May,	...	...	9	...	1	...	10	4	...	...	...	...	77	12	9	1	59	10	3	1	49	80	...	...	...	...	...	...	126	1,075	43	170	22	58	33	110	441	1,521
June,	...	...	24	3	1	...	8	2	1	...	...	...	74	5	17	20	82	7	5	...	37	45	1	...	2	...	1	...	103	597	47	138	6	44	9	114	418	975
July,	2	...	12	...	2	...	7	...	...	...	...	...	61	11	17	11	68	3	4	...	31	47	...	...	...	...	1	...	75	207	75	71	8	3	12	87	375	440
Aug.,	1	...	48	2	...	...	6	3	1	...	...	...	98	9	13	16	74	12	3	...	38	57	...	...	4	...	...	...	30	130	71	183	4	14	14	71	405	497
Sept.,	...	...	49	4	1	...	1	2	2	...	...	...	162	11	7	6	96	14	7	1	39	67	...	...	...	...	...	...	20	68	44	91	3	19	16	73	447	356
Oct.,	...	...	48	6	...	...	10	3	2	...	...	...	186	22	24	8	125	18	7	1	45	91	...	...	...	...	...	...	13	65	70	135	11	37	12	87	553	473
Nov.,	...	...	30	2	...	...	11	1	1	...	...	...	152	24	19	8	71	16	2	...	41	90	...	...	1	...	...	...	4	73	74	117	9	47	18	92	433	470
Dec.,	...	...	54	3	...	...	4	2	1	...	...	...	128	18	17	9	116	18	7	2	46	81	...	...	...	...	...	...	13	58	60	132	3	39	11	106	460	468
Total,	10	...	359	29	5	...	95	24	11	...	3	...	1,214	168	125	80	1043	164	55	8	455	810	1	...	9	...	2	...	1165	9,237	590	1,456	128	373	182	1142	5,452	13,491

Table VII.—Glasgow, 1906.—DEATHS Certified and otherwise in each Municipal Ward.

MUNICIPAL WARDS.	DEATHS CERTIFIED AND OTHERWISE.								DEATHS UNDER 5 YEARS.				LEGITIMATE.				ILLEGITIMATE.			
	Certified.		Not Certified.		No Medical Attendance.		Dispensary.		Under 1 year.		1 and under 5 years.		Under 1 year.		1 and under 5 years.		Under 1 year.		1 and under 5 years.	
	Under 5 yrs.	5 yrs. & up.	Under 5 yrs.	5 yrs. & up.	Under 5 yrs.	5 yrs. & up.	Under 5 yrs.	5 yrs. & up.	Number.	Certified.	Number.	Certified.	Number.	Certified.	Number.	Certified.	Number.	Certified.	Number.	Certified.
1. Dalmarnock, ...	456	494	1	1	8	...	...	...	272	263	193	193	236	227	189	189	36	36	4	4
2. Calton, ...	288	467	8	10	1	6	...	...	178	169	119	119	152	144	112	112	26	25	7	7
3. Mile-end, ...	404	467	1	2	9	...	...	...	258	248	156	156	222	213	144	144	36	35	12	12
4. Whitevale, ...	245	354	...	1	3	...	1	...	153	150	96	95	127	126	86	86	26	24	10	9
5. Dennistoun, ...	142	316	...	1	1	1	1	...	91	89	53	53	88	86	53	53	3	3	...	...
6. Springburn.	358	379	5	2	3	...	6	...	215	203	157	155	205	193	148	146	10	10	9	9
7. Cowlairs, ...	219	251	...	2	4	1	1	...	137	132	87	87	121	116	83	83	16	16	4	4
8. Townhead, ...	291	396	2	6	4	3	2	...	182	174	117	117	161	154	111	111	21	20	6	6
9. Blackfriars, ...	170	244	1	4	3	7	5	...	100	93	79	77	80	74	73	71	20	19	6	6
10. Exchange, ...	5	24	...	1	...	...	...	...	3	3	2	2	2	2	2	2	1	1	...	...
11. Blythswood, ...	6	21	...	...	...	...	...	...	6	6	...	...	5	5	...	...	1	1	...	...
12. Broomielaw, ...	52	101	2	2	1	...	2	...	31	27	26	25	26	24	25	24	5	3	1	1
13. Anderston, ...	216	314	1	...	1	...	1	...	134	132	85	84	121	120	80	79	13	12	5	5
14. Sandyford, ...	144	326	...	...	1	1	4	...	99	97	50	47	85	83	45	43	14	14	5	4
15. Park, ...	45	233	...	1	...	1	...	...	24	24	21	21	18	18	21	19	6	6	...	...
16. Cowcaddens, ...	310	438	3	9	22	8	6	1	204	177	137	133	174	155	128	125	30	22	9	8
17. Woodside, ...	264	444	...	2	8	1	3	1	161	151	114	113	146	136	109	108	15	15	5	5
18. Hutchesontown, ...	367	375	3	1	5	...	3	...	211	203	167	164	196	188	155	153	15	15	12	11
19. Gorbals, ...	211	343	1	...	5	1	8	...	131	118	94	93	113	103	91	90	18	15	3	3
20. Kingston, ...	235	353	...	...	6	...	3	2	142	134	102	101	130	122	92	91	12	12	10	10
21. Govanhill, ...	210	303	1	...	1	1	...	...	113	111	99	99	106	104	96	96	7	7	3	3
22. Langside, ...	74	287	...	1	...	...	...	...	40	40	34	34	37	37	34	34	3	3	...	...
23. Pollokshields, ...	13	136	...	2	...	...	...	...	9	9	4	4	9	9	3	3	...	...	1	1
24. Kelvinside, ...	15	142	...	...	1	...	...	...	11	10	5	5	10	9	5	5	1	1	...	...
25. Maryhill, ...	233	326	4	6	6	...	...	...	149	140	94	93	137	129	93	92	12	11	1	1
26. Kinning Park, ...	106	138	2	...	...	...	...	...	67	65	41	41	62	61	40	40	5	4	1	1
— Institutions and Harbour,	98	973	1	12	...	19	...	...	64	63	35	35	25	24	25	25	39	39	10	10
CITY, ...	5,177	8,645	36	66	93	50	46	4	3,185	3,031	2,167	2,146	2,794	2,662	2,043	2,024	391	369	124	120

TABLE VIII.—GLASGOW, 1906.—DEATHS in FRIENDLY SOCIETIES in each MUNICIPAL WARD.

MUNICIPAL WARDS.	Under 1 Year.		1 and under 5 Years.		5 Years and over.	TOTAL.
	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.		
1. Dalmarnock, ...	133	9	158	1	440	741
2. Calton, ...	61	1	84	2	347	495
3. Mile-end, ...	126	10	124	9	407	676
4. Whitevale, ...	51	5	68	5	292	421
5. Dennistoun, ...	28	...	36	...	236	300
6. Springburn, ...	83	1	113	3	320	520
7. Cowlairs, ...	59	2	68	3	208	340
8. Townhead, ...	81	3	98	4	340	526
9. Blackfriars, ...	25	3	47	1	187	263
10. Exchange, ...	2	...	1	...	11	14
11. Blythswood, ...	1	...	...	...	11	12
12. Broomielaw, ...	14	...	17	1	75	107
13. Anderston, ...	60	1	54	1	237	353
14. Sandyford, ...	34	2	37	2	232	307
15. Park, ...	5	1	14	...	94	114
16. Cowcaddens, ...	76	5	95	1	340	517
17. Woodside, ...	69	1	86	1	345	502
18. Hutchesontown, ...	96	4	116	6	308	530
19. Gorbals, ...	42	4	59	2	245	352
20. Kingston, ...	60	3	69	4	267	403
21. Govanhill, ...	50	1	79	2	229	361
22. Langside, ...	8	...	14	...	55	77
23. Pollokshields, ...	1	...	1	...	42	44
24. Kelvinside, ...	1	...	1	...	14	16
25. Maryhill, ...	47	2	75	...	245	369
26. Kinning Park, ...	41	...	31	...	112	184
— Institutions and Harbour, ...	3	...	10	...	361	374
CITY, ...	1,257	58	1,555	48	6,000	8,918

TABLE IX.—SHOWING HOSPITAL BED ACCOMMODATION for INFECTIOUS DISEASES in GLASGOW since 1865.

YEAR.	PARISH.			Glasgow Royal Infirmary.	LOCAL AUTHORITY.				Total Beds.	Population in Thousands.	Beds per Thousand.
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Small-pox.	Ruchill.			
1865	100	120	54	200	136	...	...	...	610	428	1·4
1866	100	120	54	175	136	...	...	...	585	438	1·3
1867	...	120	54	100	136	...	...	...	410	446	0·9
1869	...	120	54	135	136	...	...	...	445	464	1·0
1870	...	120	54	100	250	250	...	...	774	471	1·7
1872	...	120	...	100	250	250	...	...	720	495	1·4
1875	...	...	...	100	250	250	...	...	600	500	1·2
1876	...	...	...	...	250	250	...	...	500	502	1·0
1878	...	...	...	...	120	250	150	...	520	507	1·0
1880	...	...	...	...	120	250	150	...	520	510	1·0
1881	...	...	...	...	120	370	150	...	640	512	1·2
1882	...	...	...	...	120	220	150	...	490	518	1·0
1887	...	...	...	...	120	390	150	...	660	545	1·2
1893	...	...	...	...	200	390	150	...	740	644	1·1
1900	...	...	...	...	200	390	150	440	1,180	755	1·6
1901	...	...	...	...	200	390	235	440	1,265	798	1·6

In addition to the above, 5 temporary pavilions, with accommodation for 75 beds, erected at Belvidere during the smallpox epidemic of 1900-01, are available.

Parliamentary Road Hospital was closed in November, 1901, and has since only been in occasional and part use for Reception-house purposes. In September, 1904, two pavilions, each containing two wards of 16 beds (or 64 beds in all), were removed from the north-east corner of the site in order to allow the erection of the new Baird Street Reception-house.

Table X.—CITY of Glasgow Fever and Smallpox Hospitals.—Number, Average Residence, and Cost of Treatment of Patients from 1883-84.

Year.	Patients.			Total Ordinary Expenditure.			Average Daily Cost per Patient.			Average Cost of Treatment per Patient.			Average Cost of Bed per Year.		
	Total under Treatment.	Average Daily Number in Hospitals.	Average Residence in Days.												
				£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1883-84	3,200	338	41·7	15,772	0	0	0	2	6·6	5	6	4·0	46	10	9·0
1884-85	3.828	355	38·1	19,754	6	7	0	2	11·0	5	11	1·5	53	4	7·0
1885-86	2,154	215	40·3	15,550	6	6	0	3	11·5	7	19	6·2	72	4	9·5
1886-87	2.993	332	43·3	16,504	3	5	0	2	8·7	5	17	11·9	49	14	7·5
1887-88	3,056	327	42·5	17,768	17	10	0	2	11·6	6	6	1·0	54	5	9·6
1888-89	3,459	357	41·7	18,171	15	6	0	2	9·5	5	16	4·9	50	18	11·5
1889-90	3,582	361	36·8	17,899	7	3	0	2	8·6	4	19	11·7	49	11	7·0
1890-91	4,286	460	39·2	21,092	15	11	0	2	6·1	4	18	5·9	45	17	0·7
1891-92	4,850	491	37·1	26,808	9	7	0	2	11·8	5	10	8·2	54	11	10·8
1892-93	6,749	699	37·8	36,263	18	8	0	2	10·1	5	7	5·4	51	17	6·1
1893-94	5,528	624	41·2	34,551	14	3	0	3	0·5	6	5	2·6	55	9	3·5
1894-95	5,482	644	42·9	34,039	19	0	0	2	10·8	6	4	2·2	52	17	3·4
1895-96	5,127	651	46·5	34,892	12	8	0	2	11·1	6	16	1·5	53	11	5·6
1896-97	5,468	627	41·9	34,224	14	9	0	2	11·9	6	5	2·5	54	11	0·5
1897-98	5,687	709	45·5	36,972	18	10	0	2	10·3	6	10	0·3	52	3	5·7
1898-99	5,956	833	45·3	39,261	9	2	0	2	7·0	5	16	11·8	47	2	7·3
1899-1900	6,663	923	44·8	42,020	9	11	0	2	5·9	5	11	10·0	45	10	8·2
1900-01	8,888	1,031	42·3	69,015	8	6	0	3	8·0	7	15	1·9	66	18	9·8
1901-02	6,990	772	40·3	64,265	12	10	0	4	6·7	9	3	10·6	83	5	0·1
1902-03	4,882	592	44·3	53,185	12	10	0	4	11·1	10	17	10·6	89	17	2·8
1903-04	6,799	720	38·8	55,961	2	10	0	4	3·0	8	4	9·6	77	14	7·0
1904-05	5,484	576	36·3	52,558	11	4	0	5	0·0	9	1	5·0	91	5	0·0
1905-06	5,902	620	38·3	52,052	12	7	0	4	7·2	8	16	2·2	83	19	0·0
1906-07	6,803	766	41·1	54,325	19	6	0	3	10·6	7	19	8·5	70	18	4·0

N. B.—The above calculations of cost do not include interest on capital expended in erecting Hospitals.

TABLE XI. CITY of GLASGOW FEVER and SMALLPOX HOSPITALS.—STATEMENT showing PATIENTS CLASSIFIED as to DISEASE, AVERAGE RESIDENCE, and AVERAGE COST per PATIENT for each YEAR from 1883-84.

Year.	SCARLET FEVER.		ENTERIC FEVER.		WHOOPING-COUGH.		TYPHUS.		MEASLES.		OTHER INFECTIOUS DISEASES.*		SMALLPOX.		ALL OTHER DISEASES.†	
	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.	Average Residence (Days).	Average Cost per Patient.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
1883-84	51·7	6 11 10·0	44·4	5 13 2·6	58·9	7 10 2·3	35·8	4 11 3·5	34·8	4 8 8·9	...	...	27·5	3 10 1·5	26·4	3 7 3·8
1884-85	50·2	7 6 5·0	45·1	6 11 6·5	44·4	6 9 6·0	35·2	5 2 8·0	30·6	4 9 3·0	...	...	19·2	2 16 0·0	22·0	3 4 2·0
1885-86	54·7	10 16 6·2	46·6	9 4 5·5	36·2	7 3 3·5	31·5	6 4 8·2	26·2	5 3 8·5	24·7	4 17 9·2	24·1	4 15 4·7	21·8	4 6 3·5
1886-87	56·1	7 12 10·5	48·7	6 12 8·5	44·3	6 0 8·6	31·3	4 5 3·5	29·5	4 0 4·6	26·5	3 12 2·5	...	...	26·2	3 11 4·7
1887 88	55·2	8 3 9·1	50·3	7 9 2·7	42·1	6 4 10·7	33·2	4 18 5·9	22·2	3 5 10·3	29·0	4 6 0·4	16·5	2 8 11·4	21·3	3 3 2·3
1888-89	56·7	7 18 3·4	52·5	7 6 6·7	50·1	6 19 10·3	34·2	4 15 5·7	26·6	3 14 3·1	28·3	3 19 0·0	18·5	2 11 7·7	23·9	3 6 8·6
1889-90	54·4	7 7 9·4	50·2	6 16 4·5	53·0	7 3 11·8	34·9	4 14 9·7	30·6	4 3 1·6	21·4	2 18 1·6	24·0	3 5 2·4	22·5	3 1 1·5
1890-91	54·3	6 16 5·1	49·0	6 3 1·3	40·3	5 1 3·0	32·4	4 1 4·9	25·4	3 3 9·8	25·2	3 3 3·8	24·0	3 0 3·6	25·4	3 3 9·8
1891-92	53·7	8 0 2·5	49·3	7 7 0·9	43·8	6 10 10·0	31·3	4 13 4·5	26·2	3 18 2·0	22·9	3 8 3·8	38·0	5 13 4·4	20·8	3 2 0·6
1892-93	50·6	7 3 10·0	49·1	6 19 6·8	42·6	6 1 1·1	32·8	4 13 2·8	26·1	3 14 2·3	20·0	2 16 10·2	30·0	4 5 3·3	20·2	2 17 5·0
1893-94	52·7	8 0 2·0	52·5	7 19 6·7	51·0	7 15 0·0	34·8	5 5 9·2	27·7	4 4 2·2	22·4	3 8 0·9	42·2	6 8 3·0	23·1	3 10 2·5
1894-95	57·4	8 6 3·2	51·8	7 10 0·6	61·0	8 16 8·4	34·8	5 0 9·6	27·7	4 0 2·8	26·2	3 15 10·7	30·4	4 8 0·7	27·1	3 18 6·0
1895-96	57·7	8 8 11·0	57·2	8 7 5·4	54·1	7 18 4·5	33·1	4 16 10·8	29·2	4 5 5·8	31·2	4 11 4·1	30·1	4 8 1·4	29·4	4 6 0·8
1896-97	58·1	8 13 8·0	55·3	8 5 3·6	53·5	7 19 11·0	28·8	4 6 1·1	29·3	4 7 7·0	32·6	4 17 5·4	31·5	4 14 1·9	28·1	4 3 11·9
1897-98	59·9	8 11 2·9	54·7	7 16 4·5	58·1	8 6 1·2	43·1	6 3 2·6	29·2	4 3 5·7	36·3	5 3 9·3	31·0	4 8 7·5	31·3	4 9 5·8
1898-99	58·7	7 11 7·1	55·4	7 3 0·8	54·9	7 1 9·3	35·7	4 12 2·3	29·6	3 16 5·3	33·8	4 7 3·5	...	...	29·6	3 16 5·3
1899-1900	59·3	7 7 11·4	55·7	6 18 11·7	54·4	6 15 8·7	33·4	4 3 4·0	27·8	3 9 5·3	34·9	4 7 0·9	22·6	2 16 4·6	28·6	3 11 4·3
1900-01	58·7	10 15 3·7	56·7	10 7 11·7	51·1	19 7 5·2	33·2	6 1 9·3	26·0	4 15 4·4	38·7	7 1 11·4	28·1	5 3 0·9	30·0	5 10 0·5
1901-02	53·5	12 4 0·6	53·8	12 5 5·0	58·9	3 8 8·2	30·4	6 18 8·1	30·5	6 19 1·6	35·2	8 0 6·9	30·4	6 18 8·1	32·8	7 9 7·5
1902-03	57·9	14 5 1·3	51·6	12 14 1·0	60·8	14 19 4·7	44·0	10 16 8·0	31·6	7 15 7·2	35·5	8 14 9·7	26·1	6 8 6·3	31·4	7 14 7·4
1903-04	55·9	11 17 5·2	56·3	11 ·19 1·6	49·2	10 8 11·7	33·9	7 3 11·9	27·8	5 18 1·0	33·7	7 3 1·7	29·6	6 5 8·7	27·9	5 18 6·1
1904-05	54·3	13 11 5·0	57·3	14 6 5·0	43·4	10 17 0·0	32·0	8 0 0·0	27·0	6 15 0·0	34·5	8 12 5·0	27·3	6 16 5·0	29·2	7 6 0·0
1905-06	53·9	12 17 11·3	57·6	13 14 11·5	44·7	10 5 7·4	38·4	8 16 7·7	34·0	7 16 4·8	29·3	6 14 9·4	60·6	13 18 9·1	30·1	6 18 5·5
1906-07	50·7	9 16 10·7	49·8	9 13 8·0	47·5	9 4 8·8	80·5	15 12 9·7	27·3	5 6 0·3	43·3	8 8 0·7	74·5	14 9 5·9	13·3	2 11 7·7

* Includes Erysipelas, Diphtheria, Chickenpox, and Puerperal Fever; prior to 1885-86 those are included in "Other Diseases." † Includes Nursing Mothers, besides persons sent in by mistaken Diagnosis.

N.B.—The above Calculations do not include Interest on Capital expended in erecting Hospitals.

City of Glasgow Fever and Smallpox Hospitals.

RETURN BY THE MEDICAL OFFICER OF HEALTH

Shewing Number, Average Residence, and Cost of Treatment of Patients, 1906-1907.

Ordinary Nett Expenditure, as per Treasurer's Statement * :—

Fever Hospital, Belvidere, ...	£27.195 1 1	
Smallpox Hospital, Belvidere, ...	772 7 3	
Fever Hospital, Ruchill, ...	26,358 11 2	
		£54,325 19 6

* The Ordinary Expenditure on all the Hospitals has been thrown together. There is a certain amount of community in the Expenditure which could not be unravelled without trouble quite out of proportion to any result.

Average daily number of Patients in Fever Hospital, Belvidere, ...	369
Average daily number of Patients in Smallpox Hospital, Belvidere, ...	27
Average daily number of Patients in Fever Hospital, Ruchill, ...	370
Average daily number of Patients in Hospitals, ...	766

	Belvidere Fever Hospital.	Belvidere Smallpox Hospital.	Ruchill Hospital.	Total.
Patients remaining at 31st May, 1906, ...	270	54	313	637
Patients admitted during 1906-1907, ...	2,983	167	3,016	6,166
Total under Treatment, 1906-1907, ...				6,803
Average Residence, ...			41·1 days.	

Average Daily Expenditure, ...	£148 16 9·19
Average Daily Cost per Patient, ...	0 3 10·63
Average Cost of Treatment per Patient, ...	7 19 8·49
Average Cost of Bed per Year, ...	70 18 3·95

STATEMENT SHEWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE IN EACH CASE SO FAR AS DISMISSED UP TO 1st JULY, 1907, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE—

Disease.	No. Admitted.	Average Residence.	Average Cost.
Scarlet Fever, ...	1,359	50·67 days.	£9 16 10·74
Enteric Fever, ...	457	49·84 ,,	9 13 8·03
Whooping-cough, ...	1,271	47·54 ,,	9 4 8·79
Typhus Fever, ...	1	80·50 ,,	15 12 9·71
Measles, ...	491	27·29 ,,	5 6 0·53
Other Infectious Diseases,*	1,728	43·25 ,,	8 8 0·74
Smallpox, ...	1	74·50 ,,	14 9 5·93
All other Diseases,†	858	13·29 ,,	2 11 7·71
All Cases, ...	6,166		

* Includes Erysipelas, Diphtheria, Chickenpox, and Puerperal Fever.

† Includes Nursing Mothers, besides Persons sent in by mistaken diagnosis.

The above calculations of cost do not include Interest on Capital expended in erecting Hospitals.

A. K. CHALMERS.

Sanitary Department,
Glasgow, *9th July, 1907.*